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Fortnightly Review

Was It Crazy?

THE Atlantic flight of Douglas P. Corrigan in an old model of a good private airplane and regardless of rules, regulations, shortage of instruments and lack of many safety gadgets, may serve to bring about more good old American freedom for all private flyers. We contend that private flying is greatly retarded in the U. S. A. by an excess of regulatory bureaucracy. We believe in governmental education to encourage safe private flying, safe equipment and a few simple airway rules so that private flying will not interfere with scheduled operations.

Beyond that we believe that American youth should be as free to fly as a bird—and we know that a lot of foolish birds kill themselves. Corrigan is smiling evidence that legislation and rigid regulations will not keep one from doing with his own life what one's heart is set on doing. The courage and intelligence of some men will do more to bring them through alive than the best of instruments in the hands of weaker men.

Laying aside Mr. Corrigan's priceless statement that he thought he was flying to Los Angeles, he did, after all, have all that was necessary to get to Ireland. Yes, luck was part of it, but where isn't luck a part of most everything? Howard Hughes was lucky to get on and off some of the rough flying fields of Russia—so he, too, had luck, as well as all that science and expensive preparation could give him.

Corrigan's intelligence and courage is really what landed him safely in Dublin. He had the intelligence to select a good old light airplane, inspect it carefully, strengthen it,

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C. A. A. Holds First Meeting; Vast Airport Plan Considered

Here's the Civil Aeronautics Authority



Members of the Civil Aeronautics Authority and the Air Safety Board assembled at the Carlton Hotel a few days after appointments were announced to get acquainted. Only absentee was Robert Hinckley, of Utah. Seated at the table are, left to right, Harleee Branch, vice chairman; Edward J. Noble, chairman; and Clinton M. Hester, administrator. Standing are, left to right, Grant Mason, Tom O. Hardin (safety board); Oswald Ryan, and Col. W. Sumpter Smith (safety board). Harris & Ewing Photo.

Political Repercussions Follow CAA Appointments; 2 Men Demoted by BAC

There were two political repercussions resulting from the appointment of members of the Civil Aeronautics Authority. One Bureau of Air Commerce man was demoted and transferred and another was sent on a "mission" outside the country. Col. J. Monroe Johnson, Assistant Secretary of Commerce, who had hoped to be appointed to the Authority, issued the orders in both instances.

Feeling that publication of the names would prove embarrassing inasmuch as the C.A.A. is expected to "reprieve" both men after Aug. 23, AMERICAN AVIATION has decided to withhold details.

One of the BAC men was accused of campaigning to get himself on the Authority, although there is a mass of evidence to the contrary. He had been pushed by friends but took no active part himself, and did not prefer to be a candidate because he knew his chances were slight. Col. Johnson sent a "scout" to the BAC man's territory to dig up

evidence of political campaigning, but the scout returned with empty hands and almost was fired himself for failing to bring back what was expected. The day after President Roosevelt announced the CAA members, the BAC man received a wire demoting him in rank, cutting his salary \$1,000, and transferring him to another part of the country.

Another BAC man was "accused" of campaigning for a friend and has been sent out of the country. Those who are cognizant of the facts term the actions as purely political and are confident that both men will be fully restored in rank, as apparently there is no evidence against either.

Discovering News

Canadian Aviation is the latest aeronautical publication to open up a regular news section and to otherwise spruce up its format and add to its contents. Until its July issue the Canadian publication did not feature news.

No Immediate Action Likely on Airlines' Route Applications or Mail Pay Revisions

WITH tentative plans to organize shortly after Aug. 1, the Civil Aeronautics Authority got off to an early start with an introductory conference of the new appointees July 15, just a week after President Roosevelt announced his appointments.

The first meeting, held in the Carlton Hotel, was called by Edward J. Noble, chairman, to give an opportunity for the members to get acquainted. All were present except Robert Hinckley, of Utah. No one member of the Authority knew more than two others of the group previous to the meeting.

Where the CAA would be quartered in Washington became a serious problem after a survey of the office situation in the national capital. The present Bureau of Air Commerce occupies 43,000 square feet of floor space, but the CAA will require almost 80,000 square feet. There is no additional room in the Department of Commerce building, and office space is at a premium. Some 7,000 square feet of space was found over a Pennsylvania Avenue restaurant but this is apparently the only suitable quarters available if Commerce will permit the BAC to remain in its present quarters.

Members of the Authority believe it would be psychologically advantageous to move present BAC personnel to another building to get away from the Department of Commerce atmosphere, but this appeared an unlikely prospect. The task of finding office space was left up to Clinton M. Hester, the administrator, and as this issue went to press no one had even a slight idea of the solution. It appeared clear, however, that space must be found very early in August.

Although the effective date of the Civil Aeronautics Act is Aug. 23, the Authority is eager to organize as soon as possible to delve into the herculean task of straightening out civil aviation.

All members of the Authority and the administrator left Washington shortly after the first meeting. Oswald Ryan left for Bermuda, Grant Mason for Cuba to wind up his affairs in Havana, Harleee Branch to resume his interrupted vacation, and Mr. Hester left for a week's respite. Mr. Hinckley still

had WPA affairs to conclude at Salt Lake City, and Mr. Noble went to his summer home in the Thousand Islands on the St. Lawrence. Mr. Noble flew to Washington for a few hours on July 21 to attend the National Press Club luncheon in honor of Howard Hughes.

Airports was one of the most important matters discussed at the first conference. It seems to be the unanimous opinion of the Authority that an airport construction and improvement program must be undertaken on a vast scale as quickly as possible. Although the Authority itself has no clear-cut idea as to details of such a program, each member is convinced that most present airports are wholly inadequate and that hundreds of new airports and landing fields for private flyers must be built.

Up to the present, airport improvement has been left to local communities with the help of Federal relief funds. All of the commission apparently agree that this is not a satisfactory way of building a national airport system and that many millions of dollars must be expended. Evidently the Authority believes that airports are a federal responsibility, something akin to rivers and harbors, and that until adequate landing facilities are provided there can be no great expansion of air transportation, either commercial or private.

This attitude is considered to be one of the most gratifying to date. Despite the fact that several of the Authority members are not too well acquainted with aviation, they seem to be well aware of the crisis concerning airports. Under the Act they are empowered to conduct a survey and report to Congress early next year. It is fully expected that this study—already partially completed by the BAC—will be finished with dispatch, together with the laying out of a broad and sound policy on future development.

Second reaction to date is the desire of all members of the Authority to travel frequently by air. All of them expect to spend much time in the field talking with operators and flyers, civic groups and others in the interest of expanding civil aviation. Whether they will find it possible to do this in view of the enormous amount of work confronting them remains to be seen, but the intention is to travel a great deal. Some of the members have done very little air traveling in the past.

Members also are concerned about airway aids. Newspaper publicity in the past relative to the lack of sufficient aids has played a part in conditioning some of the members to this important item. Judging from conversations, it is fully expected that the Authority will delve into the airway aid problem at an early date.

It is not expected that applications for new airline routes will get attention within the first four months, and it is unlikely that air mail pay revisions will be considered within the first six months unless the financial condition of the industry becomes so much more serious that emergency measures will be necessary.

General reaction within the industry to the appointments has been generally favorable. The feeling is that the CAA is a complete "New Deal" for aviation and many of those in aviation have expressed the opinion that they would rather have an Authority composed of men almost unknown to the industry than one composed of those in the industry who have been active in one phase or another. It is also felt that "fresh viewpoints" may be advantageous in the end even though it may result in slower initial action by the CAA.

Members of the Authority have been consistent in stating that the CAA will represent a "business administration" without any semblance of politics and in which men with ability will advance in the ranks on merit and merit alone. There is a very evident desire to abolish the taint of politics which has hung over the Bureau of Air Commerce and which has even cropped out since the new Authority members were appointed. Washington observers believe the CAA will at least start out without any of the handicaps that have existed in the BAC.

PFA-NAA LINK

NAA Turns Over Private Flying Work to Pilot Group

The Private Fliers Association has announced that through an agreement reached with the National Aeronautic Association it is taking over all the private flying functions and representation of the latter organization. This move was made to concentrate private flying representation into one organization.

The PFA has appointed Haven P. Page, Washington attorney, as general counsel. Mr. Page is also general counsel of the N.A.A. contest board and is a director of Air Associates, Inc.

Grove Webster, PFA vice-president, has announced that his organization has been successful in obtaining a modification of the spin test requirements for private certificate. Solo spins are now optional, not required.

Papana to Try Again

Norwalk, Conn., July 21—Capt. Alex Papana, Rumanian flyer who overshot the local airport two days ago during a landing in soupy weather, said today he still hopes to hop off on a New York-Bucharest flight this summer, after his Barkley-Grow transport is repaired. Landing gear and the bottom of the fuselage was damaged but the Pratt & Whitney engines escaped serious injury. Repairs are expected to be completed at Hartford within a month. Capt. Papana was on the way to Hartford to have the engines checked and chose to sit down at Norwalk rather than fly by instrument, against regulations in effect for foreign aviators. Although the plane's wheel brakes operated, the wheels slid over wet grass and the plane hit a stone wall.

Kenworthy to Lakehurst

The Navy July 16 announced that Comdr. Jesse L. Kenworthy, Jr., has been given command of Lakehurst Naval air station, succeeding on Aug. 6 Comdr. Charles E. Rosendahl, who has been ordered to sea duty. Kenworthy, who was executive officer of the dirigible Macon when it crashed off California in 1935, commanded the Lakehurst station in 1932-34.

Army and Navy at Races

Participation in the National Air Races by both the Army and Navy was announced in Washington July 18. The Navy will send an 18-plane fighting unit attached to the U. S. S. Yorktown, and another of equal strength attached to the Marine Corps air force at Quantico, Va. The Army has not made known its plans.

Shows at Dayton

Dayton, O., July 18—Two identical air show programs were presented at Dayton Municipal Airport Saturday and Sunday sponsored by the Junior Association of Commerce. It was estimated that 5,000 witnessed the second exhibition, presented by the Mike Murphy Flying Circus of Findlay, O.

Hanford Changes Name

The board of directors of Hanford Air Lines, Inc., met July 26 and authorized a change in the name of the company to Midcontinent Airlines, Inc. The company is applying to the Post Office Department for formal approval.

Maybe the Colonel Hasn't Heard Yet

Considerable speculation was voiced in Washington over the announced meeting on July 28 by Col. J. Monroe Johnson, Assistant Secretary of Commerce, for the purpose of studying rules for safety and reservation of water landing spaces for seaplanes. Col. Johnson called in representatives of the Coast Guard, Army, Navy, Marine Inspection Service and the U. S. Maritime Commission.

Obviously for the purpose of laying down rules to prevent confusion between aircraft and water craft, there were those who wondered why Col. Johnson took the initiative of calling such a conference less than a month before the Civil Aeronautics Authority assumed full control of civil aeronautics in this country. Col. Johnson will be relieved of his authority over aviation by the C.A.A.

Test Largest British Motor

Great Britain's most powerful airplane engine yet produced, the Bristol Hercules 14 cylinder (radial) sleeve-valve unit, has a maximum output of 1,375-hp. It has completed an additional 100-hr. type test for modifications.

Crashes at Takeoff

A Pan American Airways plane in the Buenos Aires-Miami service struck the top of a hospital in a Buenos Aires suburb while taking off July 15. The plane was wrecked but officials said all of the eight passengers and five crew members escaped serious injury. It was believed that one engine failed.

Pan American Ready to Sign For Golden Gate Air Base

San Francisco, July 22—Contracts covering a 20-year lease, under which Pan American Airways is to operate all trans-Pacific schedules from a new permanent base on Treasure Island at the San Francisco Golden Gate International Exposition instead of from its present base at Alameda, are ready to be signed, according to Exposition authorities. Mayor Angelo J. Rossi of San Francisco; Col. Clarence M. Young, Pan Am's Pacific division manager, and Leland W. Cutler, president of the Exposition, will affix their signatures.

Under the lease, Pan Am will pay San Francisco \$130,000 at the rate of \$1,000 per year for the first five years after the close of the Fair; \$5,000 annually for the next five years, and \$10,000 per year for the remainder of the lease. During the Fair, the company will operate from Treasure Island on a regular exhibit-space basis. The lease, it is said, goes into effect early in November when the new Boeing 314's will be in active duty.

Signing of the contracts, which are with the city and county of San Francisco, and with the Fair, means that Pan American will not be stationed at San Francisco's new municipal airport project, as was formerly expected. The city recently voted a \$2,800,000 bond

PAN AM TO TEST ROUTE TO ALASKA

Will Start Trials August 6 Using Twin Engined Sikorsky Amphibians

Pan American Airways will inaugurate experimental flights between Seattle, Wash., and Juneau, Alaska, on Aug. 6 over the "outside" route, using Sikorsky S-43 twin-engine amphibians. E. L. Yuravich, chief of the Bureau of Air Commerce foreign airline inspection division, will be on the first flight.

A stop will be made at Ketchikan, Alaska, and several smaller towns between Ketchikan and Juneau. Pan Am wishes to carry passengers between Ketchikan and Juneau as soon as its proving runs are completed. It did not make a similar request for the stretch between Seattle and Ketchikan and it is thought that this was due to the fact that BAC permission would be doubtful because of the two-engine equipment being used. The Ketchikan-Juneau route is through the straits, with little open water. Once-a-week service is planned.

Pan Am plans to carry a crew of four on the ship, consisting of pilot, co-pilot, radio operator and navigator. Because of the intricate work connected with celestial navigation, the company feels that a navigator is necessary instead of allowing the co-pilot to devote part of his time to this position. Visual contact and over-top day operation will be possible, with no night flying planned.

Yuravich stated that he does not know whether the BAC will require four-engine equipment on the route. However, because of the long open-water stretch between Seattle and Ketchikan, which must be flown outside the three-mile, it is thought that four-engine planes will be used to carry passengers between those two points. Pan Am wants to get the route established and test-flown before the Civil Aeronautics Authority takes over all aviation matters, so that it will be assured of a certificate of convenience and necessity.

issue for development of the airport.

Pan Am has taken more than 65,000 sq. ft. of indoor floor space in the Hall of Air Transportation for its exhibit at the Fair. This represents about three-quarters of the building, which is one of the two permanent hangar-exhibit structures on Treasure Island. In the \$1,000,000 Air Terminal Building, Pan Am has reserved space in the airport control tower, passenger concourse and the wings of the building for radio, information and business offices. Outside space set aside for the company is in Treasure Cove, the seaplane basin at the southerly margin of the island, and includes beaching ramp and marine railway, loading docks for passengers and merchandise, refueling dock with tankage for 24,000-gals., and necessary mooring buoys, roads, fences and walkways.

One of the features of Pan Am's Fair exhibit will be an animated flight progress map on the glass partition separating the two sections of the hangar-exhibit building. Courses of all Clippers on their 9,000-mile journey to Hong Kong will be traced. Behind the glass panel, the company will carry on all shop and maintenance operations incidental to at least two arrivals and two departures each week.

2 Win Mackay Trophy For Development of Robot Landing System

Award of the Mackay trophy for the most meritorious flight made in 1937 by members of the U. S. Army



Crane

will be made to Capt. Carl J. Crane and George V. Holloman, Air Corps, for

"their outstanding achievement in successfully developing and actually demonstrating the airplane automatic landing system," the War Department announced July 21. Raymond K. Stout, project engineer at the Air Corps Materiel Division at Wright Field,



Holloman

an associate in the project, was given a letter of commendation from Louis Johnson, Assistant Secretary of War, since the trophy can be awarded only to Army officers. "The Board of Air Corps officers, recently convened to make recommendations, was of the unanimous opinion that these two officers high merited this award...and devoted intensive research and painstaking effort over a period of two years toward perfecting the automatic landing system," it was said. The first flight was accomplished Aug. 23, 1937, and is claimed to be the first entirely automatic landing in aviation history.

The system was designed by Capt. Crane, director of the instrument and navigation laboratory at Wright field. Working with Capt. Holloman, he conducted nearly all of the flight tests. The various units of automatic control were designed by these officers, Mr. Stout, and C. D. Barbulesco, of the Signal Corps aircraft radio laboratory.

"The features that are built into the automatic landing system are not only useful for the landing but are used throughout the entire flight of the airplane across the radio navigational aids with which the U. S. is provided," Capt. Crane and Holloman said.

Capt. Crane was born Oct. 20, 1900, in San Antonio, Tex., and is an honor graduate of the University of Dayton. He was commissioned a 2nd lieutenant in the Air Service in 1924. Capt. Holloman was born in Rich Square, N. C., Sept. 17, 1902, and graduated from North Carolina State College. He was commissioned a 2nd lieutenant in the regular Army in 1925.

The Mackay Trophy was tendered to the Aero Club of America in 1912 by Clarence H. Mackay. The National Aeronautic Association, successor to the Aero Club, is the present custodian. The NAA will announce the time and place of the awarding ceremonies.

DC-4 Coming East

Dayton, July 19—Reports that the DC-4 will be flown to Dayton within two months have been confirmed by Carl Cover, chief test pilot for Douglas Aircraft Co., it was announced here.

Aviation Calendar

- Aug. 7—6th Annual Sky Show, Boeing Field, Seattle, Wash.
- Aug. 20-21—Webster Competition, Dominion Finals, Ottawa, Ont.
- Aug. 20-27—Annual Michigan Air Tour.
- Aug. 24—Mississippi State Fair Tour, from Meridian.
- Aug. 27-Sept. 5—American Open Soaring Contest, Soaring Society of America, Frankfort, Mich.
- Sept. 2-3-4—Aero Medical Association Meeting, Dayton, O.
- Sept. 3-5—National Air Races, Cleveland.
- Sept. 11—Annual Air Show, Denver, Col., Municipal Airport.
- Sept. 11—Gordon Bennett Balloon Race, Liege, Belgium.
- Sept. 12-16—International Congress for Applied Mechanics, M. I. T. and Harvard University, Cambridge, Mass.
- Sept. 16-17—Fifth Northwest Aviation Planning Council, Medford, Ore.
- Oct. 14-16—Annual Meeting, National Association of State Aviation Officials, Omaha, Neb.
- Nov. 14-Dec. 4—16th Annual Aeronautical Show, Paris, France.
- Jan. 6—Midyear Meeting, Florida Aviation Association, Miami.
- Jan. 6-8—11th Annual All-American Air Maneuvers, Miami, Fla.

McFarlane, Bane of Mfrs., is Defeated

The aircraft manufacturing industry had reason for rejoicing over the Texas primary elections July 23. One of the Representatives defeated was W. D. McFarlane, of Graham, Texas, who has consistently attempted to have the industry investigated and whose many charges of monopoly and illegal practices are only too well known. The air transport industry chuckled with dignified reserve at the poor showing made by Karl A. Crowley, former Solicitor of the Post Office Department, in his race for governor. He was so far down the list that few newspapers even bothered to give the amount of his vote. Maury Maverick, also defeated, had championed increased civilian training of pilots for the Army.

Menasco Race Entrants

Cleveland, July 21—The new Menasco powered ships in the National Air Races include a Folkerts entry with Joe Jacobs back in competition as pilot behind a C6S-4 motor; a Keith-Rider C6S-4 entry, pilot unannounced; another new C6S-4 ship in Art Chester's hangar, and a renovated and rebuilt Delgado Flash, with a recent world's record, air race officials have announced here. Lee Williams' ship will be powered with a Curtiss Conqueror and Tony LeVier will enter an improved Schoenfeldt-Rider plane, it was said.

German Globe Flight

The German Embassy July 26 asked the State Department for permission to land a globe-girdling multi-motored plane and its crew of four in Alaska sometime this summer or fall. Gasoline supplies are already being arranged at Fairbanks and Nome.

Noble Pledges D. C. Aid

Edward J. Noble, chairman of the Civil Aeronautics Authority, on July 15 promised to make "every effort" to aid in solving the Washington, D. C., airport problem. The present airport he termed "the worst excuse" for an airport he has seen in a metropolitan center. A thorough study made by competent authorities should be followed by construction of the finest port possible to build, he said, not only to uphold the prestige of the national capital but to serve as a model for the country and the rest of the world.

CAA General Counsel



CHARLES S. GUTHRIE

Who has been appointed general counsel of the Civil Aeronautics Authority.

Braniff's Son Killed

Oklahoma City, July 11—Thurman Braniff, 20-year-old son of Tom E. Braniff, president of Braniff Airways, died here today shortly after the light-plane in which he and a companion were flying crashed after a takeoff at the airport. Merrill Donley, 31, flying instructor at Wiley Post airport, also was killed in the crash. Young Braniff had been flying since last summer, but had taken an instructor to check out on the heavier Arrow Sport plane. His sister is seriously ill at the hospital where he died.

Whitney Air Ambulance

New York, July 14—A twin-engine Beechcraft owned by O. J. Whitney, Inc., today returned to New York from Sheridan, Wyo., about 1,800 miles, on a mercy mission in 10 hours, 40 minutes flying time, carrying Mrs. Arthur Shapiro, who, with her husband, had been seriously injured in a motor car collision near Sheridan. Dr. Shapiro had been rushed to an Omaha hospital by the plane. O. J. Whitney was pilot, and J. H. Lymburner, pilot for Lincoln Ellsworth, was co-pilot. The plane was ordered by Dr. Harry Koster, prominent Brooklyn physician, who wished to have Dr. Shapiro, his assistant, brought east immediately, but the patient's condition required hospital attention. The company's new Beechcraft was transformed into an air ambulance, and a nurse was taken to care for the patients.

Yount Transferred to Capital

Appointment of Brig. Gen. Barton K. Yount, wing commander of the U. S. Army Air Corps, to duty as assistant to the chief of the air corps was announced by the War Department July 19.

Gov. Earle Grounded

Harrisburg, Pa., July 20—Governor George H. Earle today lost his state flying license for two weeks as result of his forced landing and crackup in a state owned Waco during fog. He landed on the campus of a college near Philadelphia. Col. Camille Vinet, who taught the governor to fly and later became head of the state aeronautics bureau, grounded his former student.

GUTHRIE IS NAMED GENERAL COUNSEL

SEC Official Appointed as Legal Head of Civil Aeronautics Authority

Charles Stewart Guthrie, assistant general counsel of the Securities and Exchange Commission, has been appointed general counsel of the Civil Aeronautics Authority.

Although he has not been associated with aviation until the time of his appointment, he has had a wide experience in regulatory commission work in Washington.

Born in Aledo, Ill., in 1881, Mr. Guthrie graduated from Knox College at Galesburg, Ill., and from the Harvard Law School. He entered law practice in New York City on graduation from Harvard and has been in legal work ever since except for ten years in the machine tool business.

He came to Washington in 1932 to supervise the division of the Reconstruction Finance Corporation handling self-liquidating loans. When the Public Works Administration took over this type of loan several years later, he entered private law practice in Washington. On the passage of the Public Utility Holding Company Act in 1935 he joined the SEC to organize and supervise this phase of the commission's work. He has specialized in financial law practice.

Mr. Guthrie is well known to the chairman of the CAA, Edward J. Noble, and is likewise known to both Mr. Ryan and Mr. Hester. It is perhaps significant that among the nine major appointments made to date, three have been in Washington as general counsel or assistant counsels to federal agencies.

The new general counsel has done considerable flying on airlines and is enthusiastic about aviation in general. Conversation with him reveals his interest in airports, airway aids, and the strengthening of the air transport industry. His appointment can be considered strictly non-political.

His position is one of the most important in the CAA inasmuch as the legality of airline transactions, regulations and a host of other matters will come to him for decision. Also, it will be up to the general counsel to hand down decisions to the Authority on interpretations of the Civil Aeronautics Act, no mean job in itself considering the many topics left open for decision by the Act itself.

Stuart G. Tipton, a member of the legal staff of the Treasury Department, who aided Clinton M. Hester in drafting the legislation, is expected to be appointed to Mr. Guthrie's legal staff.

Planes in War Games

A joint anti-aircraft-Air Corps exercise will be held at Fort Bragg, N. C., from Oct. 3 to Oct. 17, the War Department announced July 25, with heavy concentration of anti-aircraft and Air Corps defense equipment being planned. Aircraft will be brought from Langley Field, Va., Selfridge Field, Mich., Fort Monmouth, N. J., Mitchell Field, L. I., Barksdale Field, La., and March Field, Calif.

Pilot's Widow Sues MGM

New York, July 14—Mrs. Dolores Lacy Collins Henderson, widow of Jimmy Collins, test pilot who was killed three years ago while testing a naval plane, brought suit for \$1,000,000 yesterday against Metro-Goldwyn-Mayer, motion picture firm, charging that the company was guilty of plagiarism and unfair competition in producing the movie "Test Pilot." MGM, the widow charged, based the picture on a book of the same name written partly by her husband and finished after his death.

NORTHWEST GROUP MAKES UP PROGRAM

Meeting to Be Held Sept. 16-17 in Medford, Ore., Announced

Medford, Ore., July 17—A preliminary program for the meeting of the Northwest Aviation Planning Council to be held here Sept. 16-17 was announced today by A. H. Banwell, program chairman, who emphasized that short addresses by national authorities will lead off open forum discussions. E. G. Harlan, Boise, Idaho, will be general chairman. Airports will be considered on the morning program Sept. 16, with special regard to needs and classifications, location and construction, legal and legislative aspects, and how PWA can cooperate with hangar and airport construction. In the afternoon's tentative program are: fixed base operators, feeder lines, airplane manufacturers (both airline and non-airline).

Subjects Sept. 17 will be consideration of the educational side of aviation (amateur aircraft building and junior activities), and private flyers. The latter phase of the program will include special emphasis on Department of Commerce regulations and legal aspects of private flying; state aeronautics board and regulation of private flyers; the future for private flyers; recommendations for simplified regulations. The topics of National defense, present civil aeronautics authority and future legislation will be on the afternoon program.

Luncheons are scheduled for Sept. 16 and 17, and a banquet will be given the evening of Sept. 16.

Aiding the general and program chairman are Walter R. York, Boise; W. W. Connor, Seattle; Fred B. Sheriff, Helena, Mont.; R. R. Staub, Portland, Ore.; Joe Crosson, Alaskan delegate; W. C. Mainwaring, British Columbia; D. H. Elton, from Alberta; George Black, Yukon. Local committee chairmen are T. A. Culbertson, Jr., L. D. Jones, B. E. Harder, Mrs. David Rosenberg, W. W. Abbey, Floyd Hart, Cole Holmes, Orin Schenck, and L. C. Fox.

AA Aids Port Project

Little Rock, Ark., July 11—The City Council tonight ordered execution of a lease with American Airlines for a six year advance payment of rent on office space in the administration building at Adams Field, involving \$3,000. The airline's offer stipulated that the money should be used by the city for construction of a new administration building, with the aid of WPA. A grant has been promised by State Administrator Floyd Sharp. The building, to cost about \$25,000, will be located directly east of the new municipal hangar. Two buildings, the present administration structure and another damaged by fire several years ago, will be razed.

BOB ELLIS, who operates a plane out of Ketchikan, Alaska, stated recently that he has flown 7,645 passengers a total of 503,274 miles in nine years of Alaskan flying. His biggest day was in 1930 when he carried 94 passengers in 17 trips on a six-passenger plane. Ellis has made 767 trips to the west coast from Ketchikan with 2,702 passengers, and 48 trips between Ketchikan and Seattle with 77 passengers.

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Facing Realities

THE response to the Civil Aeronautics Authority appointments was so excellent generally throughout the industry that we thought perhaps this was one time when aviation might not "jump the gun" and start grousing and throwing out cold tears before the C. A. A. even had a chance to get organized. Somehow we don't like to prejudice, to condemn an organization before it even gets into existence, but there are those who apparently don't agree with this policy.

There appeared in *The New York Times* of July 24 a letter written by the editor of another aeronautical publication. It was an "evaluation" of the C. A. A. appointments and we will agree that "evaluation" is the right word if that means loading the dice before the game starts. This trade paper editor undoubtedly had his reasons for not using his own paper for his appraisal but we can't imagine what those reasons were. At any rate the letter was a nice dash of icy cold water on the men who are heading up the C. A. A. and ends with a sorry little lament that it is a pity that aviation can't work out its own salvation without having a group of "outsiders" take over the reins.

The seventh assistant associate editor of AMERICAN AVIATION has a rather cantankerous feeling that aviation as a whole suffers greatly from the ingrown habit of placing too much emphasis on "background in aviation," in the hiring and appointing of men and placing them in positions where they may influence and guide the course of the industry or any part of an industry.

A damn fool who has barnstormed as a pilot, worked for airlines, held a job in an aircraft manufacturing plant, attended a hundred so-called "aviation conferences" and knows the national aviation figures and heroes by their first names, may still be, and likely is, a damn fool.

It is regrettable that some of the members of the C. A. A. have had slight contact with so highly volatile and fast-moving an industry as aviation prior to assuming their new jobs where they may be expected to exert a definite influence on aviation's destiny in the near future.

However, we think there is a lot of bunk about the much-touted "aviation expert." The real experts in the business admit willingly that they have plenty to learn, and the real expert doesn't try to blackball every amateur who is appointed to a good job in the industry. The writer of the "Letter to the Editor" refers to "aviation knowledge" but perhaps someone can tell us what "aviation knowledge" really means aside from representing two words in the English language. Aviation knowledge of ten or even five years ago is hardly applicable today. An old war-time flyer might as well never have flown as to cope with today's problems in any more proficient fashion than a man who's never been in the business. There's a long step, even though it's only a few years, between the two-seater crates and the comfort and luxury of the Douglas DC-3, the Boeing 314 clipper and the Lockheed 14. And the gap in "aviation knowledge" is just as great.

The aviation industry, all and every part, is growing and learning. Today's shining advance may be obsolete or vastly improved upon the morrow. The industry cannot forever continue being a "secret fraternity" where the blackball system is used on each and every "non-member" who wants to have a share in the expansion. The industry is an awfully small cog in the nation's industrial system but aviation has yelled louder than anyone else for attention, sympathy and help. But it can't get help and expand and grow into maturity without letting a few newcomers into the picture.

The federal government has at last recognized the industry as an integral part of the national structure and provided a framework of federal law in which it may expand and work out its many problems. The C. A. A. is bigger than any individuals and broader by far than apparently is realized by even some of those who have read the Act.

Rather than to oppose and criticize the body of men who have been appointed to administer this law by the Chief Executive, we propose to join hands and work with them to the fullest possible extent. To do otherwise—and to take a lament into the public press—is to say "Let me choose the team, or I won't play!" While the C. A. A. is learning, we will be learning, too. We don't know all the answers in aviation. We don't know anyone in aviation who does. If the C. A. A. bogs down and is a failure, we'll be the first to say so, but one of the quickest ways to bog it down is to refuse to give it a chance in the first place.

The industry is not trying to throw cold water on the C. A. A. For the most part they want to be cooperative. We are glad this is so as we believe that for once the industry should face realities. Cooperation is the course of wisdom and the path to progress. For the good of aviation we hope the C. A. A. does not take the prejudged condemnation which unfortunately appeared in the public print, as coming from or representing the industry. It's no time to start grousing and calling names. The C. A. A. can't function smoothly with a negative or even a neutral attitude. We believe it should be given a chance.

Airports are Federal Problem, ATA Believes

The air transport industry believes airports are a federal problem and should not be left to local communities or states, according to a decision reached at a meeting held in Washington July 22 by the airport committee of the Air Transport Association. The committee discussed ways and means of presenting its views to the new Civil Aeronautics Authority.

Consensus was that airports are similar to rivers and harbors and should be constructed, improved and maintained by the federal government, at least insofar as the landing areas are concerned. The airlines fear that if the federal government does not assume responsibility, states will impose heavy taxes on aviation gas to provide funds for such construction and improvement, with the result that the federal government will have to pay higher mail pay to the lines to make up for additional cost of operation.

Attending the meeting were Hainer Hinshaw, United Air Lines; O. M. Mosier, American Airlines; Jack Wynne, Western Air Express and Continental Air Lines, and Fowler W. Barker, secretary of the Air Transport Association.

Mayors Sponsoring Foreign Port Study

Paul V. Betters, director of the United States Conference of Mayors, and Mayor M. C. Ellenstein of Newark, N. J., sailed for Europe July 20 to undertake a survey of the administrative organization and financing of municipal airports in France, England, Denmark, Sweden, Netherlands, and possibly other countries. Aid will be given by the various foreign offices through arrangement with the Department of State.

"The survey has been ordered in connection with the general survey of the airport situation in this country provided for under the recent Civil Aeronautics Act," the conference announced. "One section of the new law requires the CAA to report to Congress by Feb. 1 as to proper federal and municipal financial responsibility for operation and maintenance of civil airports. The conference survey is intended to supplement the data which will be compiled by the Authority."

"Many cities in this country are faced with a serious airport problem due to the coming of larger and faster commercial planes. Recognizing this, the last Congress provided for the first step in the ultimate adoption of a national airport program. Our survey will examine the set-up in the larger cities of Europe and thus we will be able to present to the Authority and to the next Congress authoritative and comprehensive data."

N. Y. U. Prof to Dayton

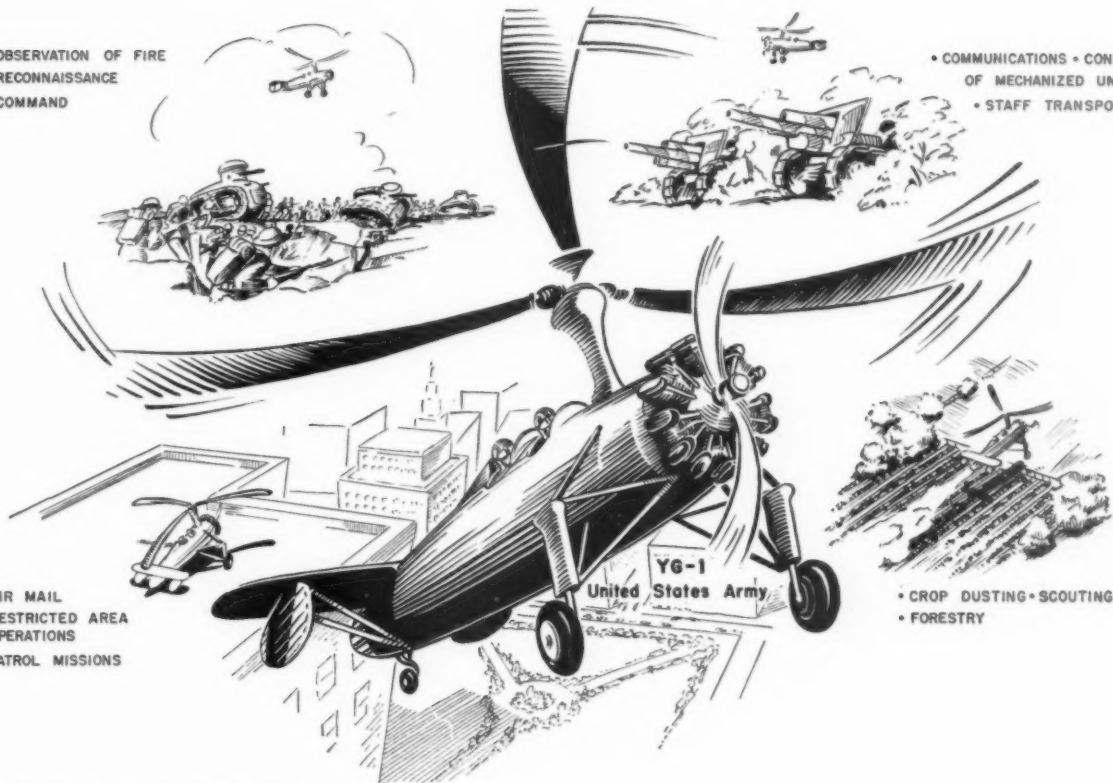
New York, July 30—Prof. Frederick K. Teichmann, of the Guggenheim School of Aeronautics of the New York University College of Engineering, has been appointed to the materiel division of the Army Air Corps at Wright Field, Dayton, Dean Thorndike Saville announced today. Prof. Teichmann will conduct special research in connection with standardization of the analysis of the monocoque fuselage. Later, he will teach aeronautical engineering at the University of Minnesota for one year, starting in September. The exchange professor will be Howard W. Barlow of the University of Minnesota's aeronautical department.

- OBSERVATION OF FIRE
- RECONNAISSANCE
- COMMAND

- COMMUNICATIONS • CONTROL OF MECHANIZED UNITS
- STAFF TRANSPORT

- AIR MAIL
- RESTRICTED AREA OPERATIONS
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\$7,000,000 Airway Aid Program To Be Completed by Jan. 1, 1939

Earlier Date Possible if Deliveries Continue at Present Rate; Bulk of Construction Already Finished; 80% of Funds for Radio

With approximately 75% of the actual construction work finished, the Bureau of Air Commerce expects to have its \$7,000,000 airway aids program completed by Jan. 1, 1939, according to Charles I. Stanton, chief of the BAC airways engineering division. If deliveries on contracts continue at their present rate, there is a possibility that completion may be advanced, he stated.

Because about 80% of the total funds available are being used for radio, 71 new radio range stations are being established under the program, and of the 164 stations already in existence, 39 are being rebuilt and 50 modernized. The two types of stations under construction are the vertical radiator or Adcock type, permitting simultaneous voice and radio transmission; and the loop type, of medium and low power, for use over short distances.

The somewhat complicated appropriation for the program is as follows: in June, 1937, Congress provided \$3,000,000 in cash, \$2,000,000 in credit to be obligated prior to June 30, 1938, and \$2,000,000 credit to be obligated between July 1, 1938, and June 30, 1939. In April, 1938, \$2,000,000 cash took the place of the first \$2,000,000 credit, and in addition, another \$2,000,000 cash and \$2,000,000 credit was provided. This last \$2,000,000 cash is being used for radio, lights, fields, and teletype along 2,700 miles of airways.

This shifting of funds leaves the last \$2,000,000 credit free, but it is not known how it will be used. The Bureau is far from satisfied that completion of the present program will provide the country with an adequate system of airway aids. The airlines have from time to time submitted suggestions and the BAC has incorporated these into an entirely new program, calling for expenditure of approximately \$10,351,535. In addition to this, the airlines have asked for \$3,593,785 worth of aids in sections where the BAC does not believe them necessary. However, a list has been made of those projects and it is planned to devote further study to them.

The following Adcock type stations are already in operation: Hartford, Conn.; Allentown, Pa.; Philadelphia, Pa.; Riverside, Cal.; Sacramento, Cal.; Bakersfield, Cal.; and Richmond, Va. Loop type stations have been completed at New Hackensack, N. Y.; Rochester, N. Y.; Utica, N. Y.; Grand Rapids, Mich.; Lafayette, Ind.; Morse, Ill.; Golva, N. D.; Custer, Mont.; Dillon, Mont.; Tintic, Utah, and Humboldt, Nev. Although this is but a small percentage of the total, Stanton points out that most of the buildings in which the radio equipment is to be installed have been completed. All that remains to be done at most stations is to install the radio and "turn the switch," he said.

Following are the contracts which were awarded under the program:

Westinghouse Electric & Manufacturing Co.—furnishing, transporting, installing, adjusting, test-operating and commissioning 44 SMRA-D (Adcock) stations. Contractor is delivering 10 stations per month instead of the required six.

Federal Telegraph Co.—furnishing, transporting, installing, adjusting, test-operating and commissioning 36 SBRA-D stations. Contractor is also delivering more than the required six.

Bendix Radio Corp.—furnishing, transporting, installing, adjusting, test-operating and commissioning 30 MRL and ML (loop type) stations. These are being installed for use over short distances and to enable the pilot to find the exact location of a field for an instrument landing.

Westinghouse Electric & Manufacturing Co.—50 sets of transmitting equipment. These are being installed at the stations which are being modernized.

Bendix Radio Corp.—furnishing, transporting, installing and test-operating one duplicate simultaneous radio installation at Hartford, Conn. This installation has been completed and turned over to the first regional office for scheduled operation.

Bendix Radio Corp.—100 cone-of-silence markers. Seventy-six units have been shipped to destinations. The remaining 24 units are stored at the manufacturer's plant and will be shipped as radio facility buildings become available to house them.

Radio Receptor Corp.—22 sets of ultra-high frequency fan markers for installation in the vicinity of metropolitan airports.

Communications Development Corp.—AC dialing equipment for use in connection with the modernization

Visitor



Capt. D. C. T. Bennett, pilot of the experimental Atlantic flight of the Mercury, the upper long range unit of the Short-Mayo Composite Aircraft, which flew to New York the other day. Bennett's successful crossing opened Imperial Airways' 1938 season of trial runs. He is an Australian, author of a book on "Advanced Air Navigation," and has been with Imperial since 1936.

program. All equipment has been completed, factory-tested, accepted and shipped. All control dialing is to be changed from direct current to alternating current except in cases where the government owns and maintains the control lines.

Le Roi Co.—101 240-volt single phase fully automatic gasoline-driven engine generators complete with auxiliary radiators.

Fire Ruins Two Planes

Stroudsburg, Pa., July 21—Two planes stored in a hangar at Barrett Airport here were destroyed by fire with loss estimated at \$4,000.

TRANS-ATLANTIC TEST FLIGHTS ON

British Flying Boat Arrives in New York Few Hours Before Germany's Nordmeer

The first of more than 40 trans-Atlantic flights scheduled for this summer by British, German and French aircraft was completed July 21 when the smaller unit of the Short-Mayo composite craft, the 4-Engine Mercury, arrived at Port Washington, L. I., after a one-stop flight from Foynes, Ireland. Flying time was 22-hrs. 28-mins. to Port Washington (3,042 miles), and 20-hrs. 20-mins. to Montreal (2,715 miles).

Germany's Nordmeer arrived at Port Washington the next morning, covering the 2,397 miles from the Azores in 17-hrs. 42-mins. Both planes returned east and for the rest of the summer regular test schedules will be maintained. The Mercury, lacking its take-off plane, will make eastbound flights by easy stages, via Newfoundland, Azores, and Lisbon.

The British, using the Mercury, Albatross (landplane) and Cabot will make about 15 flights terminating in October.

Fourteen round trips are on the German program, with three diesel-powered, 4-motor ships (Nordmeer, Nordwind, Nordstern). Although the entire route will include Berlin, Frankfurt, Marseilles, Lisbon, the Azores and Port Washington, the catapult-type diesel craft will be used only on the New York-Azores segment.

Air France Transatlantique has announced at least three round trips between Biscarosse (near Bordeaux) and Port Washington, with the first flight tentatively set for Aug. 15 or 20, using the huge 6-engine 40-ton *Le de Variseau Paris* flying boat. There will be a crew of six.

No cargo will be carried by any of the planes, because of the international regulations, specifying "survey" or non-commercial flights.

Evidence that the Germans are fearing a trans-Atlantic squeeze play was seen in remarks of Rudolf A. Jahn, Dutch Lufthansa's American representative, who said his company is ready to start carrying mail but must wait until an American company begins service to Germany. Jahn complained that since Pan American apparently has no intention of extending its service to Germany, a virtual U. S.-British trans-Atlantic monopoly exists. Rumors in Washington indicate Russia and Italy also are preparing to enter trans-Atlantic operations.

Meanwhile, Pan American Airways estimated that the first scheduled crossing by one of the new Boeing Clippers will be "by the end of the summer." On July 1 Pan Am had available 14 complete ocean crews, every member with more than 100,000 miles of trans-oceanic transport flying to his credit.

Establish Turlock Airport

Turlock, Cal., July 12—The City Council has leased 200 acres near here to Fred C. Richardson, for use as an airport for two months. Two planes, an Arrow Sport and a Cub, will be stationed at the field at once, and other neighboring flyers may move to the port after further improvements are made.

Improving California Port

El Cajon, Cal., July 11—Hall Sportsman Airport, near Lemon Grove, now is equipped with a new hangar 40 by 130-ft., and a 1900-ft. runway. Don Hall, who is in charge of improving the 20 acre field, has storage, repair, and sales service available, and is expected to start a flying class shortly, using three planes.

A NEW FLOOR COVERING especially designed for boats and airplanes, of light weight rubber mosaic tile, has been developed by Manhattan Rubber Manufacturing Division of Raybestos-Manhattan, Inc., Passaic, N. J.

Completion Dates for New Radio Stations

Adcock Type

Delta, Utah—Aug. 15	Eugene, Ore.—Oct. 4
Melbourne, Fla.—Oct. 15	Fort Jones, Cal.—Oct. 4
Burlington, Vt.—Oct. 30	South Bend, Ind.—Nov. 4
Red Bluff, Cal.—Oct. 30	Joliet, Ill.—Nov. 4
Columbia, Mo.—Nov. 30	Peoria, Ill.—Nov. 4
Trinidad, Col.—Dec. 15	Springfield, Ill.—Nov. 4
Lake Charles, La.—Dec. 30	Parco, Wyo.—Nov. 4
Brownsville, Tex.—Jan. 1	Las Vegas, N. M.—Dec. 4
Allentown, Pa.—completed	Woodward, Okla.—Dec. 4
Sacramento, Cal.—completed	Columbus, N. M.—Dec. 4
Bakersfield, Cal.—completed	Smith Grove, Ky.—Dec. 4
Plymouth, Utah—Aug. 4	Meridian, Miss.—Dec. 4
Toledo, O.—Aug. 4	Palmdale, Cal.—Jan. 1
Lansing, Mich.—Aug. 4	Sioux Falls, S. D.—Jan. 1
Dubois, Ida.—Sept. 4	Kingston, Cal.—Jan. 1
Whitehall, Mont.—Sept. 4	Dallas, Tex.—Jan. 1
Belgrade, Mont.—Sept. 4	Abilene, Tex.—Jan. 1
Great Falls, Mont.—Sept. 4	Corpus Christi, Tex.—Jan. 1
Augusta, Ga.—Sept. 4	Columbia, S. C.—Jan. 1
Sac City, Ia.—Oct. 4	Tampa, Fla.—Jan. 1
Arlington, Ore.—Oct. 4	Wichita Falls, Tex.—Jan. 1
Baker, Ore.—Oct. 4	

Loop Type

Baltimore, Md.—Aug. 15	Tyler, Tex.—Aug. 5
New Hackensack, N. Y.—completed	Austin, Tex.—Aug. 5
Utica, N. Y.—completed	Galveston, Tex.—Aug. 5
Rochester, N. Y.—completed	Acomita, N. M.—Aug. 5
Grand Rapids, Mich.—completed	Mormon, Mesa, Nev.—Sept. 5
Lafayette, Ind.—completed	Needles, Cal.—Sept. 5
Morse, Ill.—completed	Santa Ana, Cal.—Sept. 5
Golva, N. D.—completed	Modesto, Cal.—Sept. 5
Custer, Mont.—completed	Indio, Cal.—Sept. 5
Dillon, Mont.—completed	Florence, S. C.—Oct. 5
Tintic, Utah—completed	Savannah, Ga.—Oct. 5
Humboldt, Nev.—completed	Charlotte, N. C.—Oct. 5
Jacks Creek, Tenn.—Aug. 5	Macon, Ga.—Oct. 5
Brinkley, Ark.—Aug. 5	Daytona Beach, Fla.—Oct. 5

Miami Air Investment Set At \$5,503,000

Miami, Fla., July 15—C. T. Hansen, city director of aviation, reports that aviation investments here in lands, buildings, runways and other permanent improvements total \$5,503,000, "leading all other cities in the amount per capita invested for flying." The investment averages nearly \$40 for each permanent resident and \$5,200 for each year round aviation employee.

"Since investment in aviation facilities here was negligible until 1928," Hansen said, "it can be figured that more than \$550,000 a year has been invested in the last decade."

"There are now 10 airports in Miami—one municipal, three operated by military services, one by Eastern Air Lines, one owned and operated by Pan American Airways, three privately owned and one a dirigible hangar. An eleventh airport of 800 acres, to be called the Miami Master Airport, is projected and if federal funds are provided, work on it probably will begin before the end of this year."

\$80,000 Fire at Kelly

San Antonio, July 21—Fire at Kelly Field yesterday destroyed an old wood hangar housing two planes, engineering equipment, a tractor and old records, with total value of \$80,000. It is believed that sparks from the tractor's backfire fell on a pool of gasoline on the hangar floor, which spread to the fabric of one of the aircraft. The planes were an obsolete Keystone bomber and a North American BT-9 trainer. The hangar was built during the war, as a "temporary" structure.

\$12,000 L. A. Fire

Los Angeles, Cal., July 18—Five planes valued at \$10,000 were destroyed by fire last night at Telegraph and Atlantic Airport in East Los Angeles. The wooden hangar was valued at about \$2,000, according to J. D. McCutcheon, manager.

Determine Fire Cause

Oakland, Cal., July 8—A preliminary investigation has shown that heat from a droplight, which had fallen against the fuselage, ignited the doped fabric covering and caused the fire which burned one plane, injured a pilot and threatened 80 ships at the Bay Air-drome in Alameda on July 4. Fred Crawshaw, San Francisco advertising man, was the injured pilot and owner of the burned plane. Damage to the ship was estimated at \$1,000.

Urge Lambert Protection

St. Louis, July 13—A survey conducted by Deputy Fire Chief Lawrence Cornoyer and engineers from the Missouri State Engineer's office, reveals that water supply and pressure at Lambert-St. Louis Field is inadequate to combat any fire of major proportions. The report will recommend to the city that a connection be made with the municipal reservoir.

Add to Airport Budget

Long Beach, Cal., July 12—City Manager Randall Dorton reports that \$2,000 has been added to the budget of Municipal Airport for this year, making the total maintenance and operating allowance \$14,527. Last year the budget figure was \$12,795. Included in the new total are allowances of \$8,527 for salaries, \$3,187 for utilities, and \$2,000 for materials and services. The additional \$1,000 is for field improvements. The city council is expected to approve the new budget shortly.

The Incredible Douglas Corrigan and His Robin - Their Story

Two years ago Douglas Corrigan asked the Bureau of Air Commerce for permission to fly across the Atlantic Ocean. Last summer he asked again, and was refused again. This year he did receive an experimental license to hop across the country, and did it—non stop in 27-hrs. 50-min., arriving at Roosevelt Field from Long Beach at 6:50 p.m. July 9—in a 1929 plane powered with a 1929 motor. On July 17 at 4:17 a.m. (EST) he took off from Floyd Bennett Field and 28-hrs. 13-min. later sat down at Baldonnel Airport, Dublin, without customs clearance, landing papers, passport, visa, or BAC permission. And said he'd thought he was headed for California all that time. He is returning to the United States on one of the government's liners as an honored guest, and his plane arrived in New York July 30 on a government carrier free of transport costs. No one worries about his future. Nothing remains to be told, but a recapitulation for the record:

Estimated cost of the flight was set by Corrigan at \$69.60—of which \$62.26 was spent on 320 gals. of gasoline. He carried 16 gals. of oil. The plane is a Curtiss Robin built in 1929 by Curtiss-Robertson Airplane Co., St. Louis. The highwing, 3-place cabin monoplane, with fabric covered wings and fuselage, has a span of 41-ft. and is 25-ft. 6-in. long. Service ceiling is 13,200-ft. Rate of climb is 750-ft. a minute. Weight empty is about 1,675-lbs., and at the Floyd Bennett takeoff weighed 4,200-lbs. Before addition of the extra tanks, normal cruising range was about 400-miles. Top speed is 118-mph., cruising speed 100-mph. Wing load at the start of the flight was 47-lbs. per sq. ft. Corrigan values his ship at \$900.

The 5-cylinder radial aircooled J-6 Wright Whirlwind 175-hp. motor was built Aug. 17, 1929. Both plane and engine were identical with those used by Al and Fred Keys in 1935 at Meridian, Miss., to establish the existing world's refueling endurance record of 653-hours, 34-mins. The propeller was a Hamilton Standard adjustable pitch model. Instruments included two magnetic compasses, bank and turn and rate of climb indicators, air speed indicator, an altimeter, and a 4-ft. stick to clear ice off the venturi tube.

Corrigan popped up at the Los Angeles field office of the Los Angeles-San Diego Air Line, operated by Ryan, in the fall of 1925, as a persistent 18-year-old aviation bug determined to learn how to fly. Finally he was taken on as a helper, with the stipulation that he would be taught to fly in return for his work. J. J. (Red) Harrigan, now

manager of Lindbergh Field, San Diego, gave him lessons. He was later transferred to San Diego. When the company opened a manufacturing plant, Corrigan went on the payroll as a welder, and worked on Col. Lindbergh's *Spirit of St. Louis*. Some time later he helped put his brother through aeronautical engineering school. Today Harry Corrigan is with Glenn L. Martin Co.

Corrigan was employed as a welder by Northrop and Douglas companies between 1934 and 1935, and returned to Ryan in October, 1935, remaining until July, 1937. He was with Northrop from Nov. 8, 1937, till May 11, 1938. Most of the work on the extra gas tanks was done by Corrigan himself in spare time. His name was Clyde until he changed it 15 years ago in honor of one of his heroes, Douglas Fairbanks. His father, Clyde S. Corrigan, was a construction engineer.

The response of Denis Mulligan, director of the once stodgy Bureau of Air Commerce, to Corrigan's Dublin arrival should be preserved, too. "It's a great day for the Irish," he said. "And we don't want to spoil their fun. It just goes to show you never know what an Irishman will do next. Our main problem is to keep all sorts of youngsters from setting out on similar junkets in all sorts of airplanes." Because it felt obligated to do something, the Bureau next day "grounded" Corrigan's plane.

Douglas P. Corrigan arrives in New York Aug. 4. On that day, consult your local newspaper.

Navy Bombers to Alaska

The Navy Department in Washington has sent 24 Navy Patrol bombing planes of squadrons VP-7 and VP-9 to Kodiak, Alaska, for air maneuvers. A total of 54 bombers are now in Alaska, the largest concentration in the Territory's history.

By Air Mail Only

Fifty-nine postoffices in Canada receive all mail by air, the office of the American trade commissioner at Ottawa reports. The local Canadian rate for these points is 3c for the first ounce and 2c for each additional ounce or fraction. Most of the towns are in the north woods.

Family of 6 Cross Nation

United officials June 30 reported that the largest family to fly across the country arrived in Newark on a Mainliner from Vancouver that afternoon. Mrs. T. A. Hiam and her three sons and two daughters took an American Airlines ship at Newark for Boston.

Britain-Australia AIR Mail—for 3c

Great Britain's new policy of carrying all letter mail by air, wherever possible, without extra postage fees, was extended to include the England-Australia Empire route July 28. Letters go by plane between the British Isles and the Antipodes for the equivalent of 3¢ a half-ounce. Mails for New Zealand have similar rates, but until service is opened between Australia and New Zealand, water transportation is used for that link.

In preparation for additional loads which will be carried, an additional air service will operate from England through to Australia, Imperial Airways announces, which will make a total of eight services a week to Egypt, five to India, three to Malaya, and three to Australia. On the Africa route there are three services weekly to Central Africa and two on to South Africa. The Southampton-Sydney flying boats will leave Britain on Thursday, Saturday and Sunday, arriving over the Australian coast in just over 7 days, and Sydney in a little over 9 days. Departures from Sydney will be on Tuesday, Thursday, and Saturday.

France also has extended its non-surge air mail service. Effective June 1, first class mail sent from France to Germany, Great Britain, or Switzerland is carried by plane without extra fee, making a total of eight European countries with which France has such arrangements. The others are Belgium, Holland, Denmark, Sweden and Norway, according to the American commercial attache at Paris.



In THIS Business

27

YEARS

Is a Long Time!

Since April 1911, in the very beginning of the airplane industry, Cessna airplanes have been proving their worth in all forms of competition from the short speed-dash to long non-stop flights—from thrilling crowds in the old "barn-storming days" to winning first place, for three consecutive times, the grueling tests devised to establish the efficiency of the world's commercial airplanes.

With such a background it is small wonder that the new Cessna Airmaster meets the requirements of all who fly. It is the ideal airplane for those who fly for pleasure as well as the businessman whose first considerations must be safety, economy and performance.

The 1938 Cessna Airmaster embodies improvements in design and construction that set new marks in performance, economy and "fool-proof" safety of operation. The airmaster is available as a Landplane, Seaplane, Photoplane, Ambulance plane, Freighter or Skiplane.



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New York's Welcome Outdoes Lindbergh's in 1927; Secretary of State and Diplomats Receive Crew; Average Flying Speed Announced As 206.71-MPH

A round of celebrations, welcoming ceremonies, banquets and dinners have been given Howard Hughes and his four companions since their arrival at Floyd Bennett Field at 1:34 p. m. (EST) July 14, after circling the world in 3 days, 19 hours, 8 minutes and 10 seconds. A tumultuous Gotham reception rivaled that given Col. Charles Lindbergh in 1927.

In Washington the party was received by Secretary of State Cordell Hull, and entertained by the National Press Club and Constantine Oumansky, charge d'affaires of the Soviet Republic. In New York the official hosts were Grover Whalen and the World's Fair management.

Official time of the flight, according to John P. V. Heinmuller, chief timer for the National Aeronautic Association, was reduced by six minutes over the previously announced time because the plane's wheels left the New York runway at 6:26 p. m. July 10 instead of 6:20, when a false start was made.

Official Log of the flight follows, with all time Eastern Standard:

July 10: 6:26 p. m.—Left Floyd Bennett Field.

July 11: 10:55 a. m.—Landed at Le Bourget Field, Paris.

7:24 p. m.—Took off for 1,600 mile flight to Moscow.

July 12: 3:13 a. m.—Arrived in Moscow.

5:30 a. m.—Hopped for Omsk.

1:00 p. m.—Arrived in Omsk.

8:36 p. m.—Left for Yakutsk.

July 13: 4:08 a. m.—Arrived at Yakutsk.

7:01 a. m.—Left for Fairbanks.

7:18 p. m.—Arrived in Fairbanks.

8:36 p. m.—Left Fairbanks.

July 14: 8:38 a. m.—Arrived Minneapolis.

9:11 a. m.—Left for New York.

1:34 p. m.—Flashed over Floyd Bennett, landing at 1:37.

Distance covered was about 14,680 miles, with an average flying speed of 206.71-mph., comparing with Wiley Post's average flying speed of 126-mph. over 15,559 miles, covered in 7 days, 18 hours, 49 minutes, in 1933. Hughes at times went to 16,000-ft. altitude.

Cost of the flight, according to Hughes' own estimate, was set at \$5,000, exclusive of equipment. The plane's cost to Hughes, he said, was \$60,000. The gasoline was contributed (by Standard Oil Co.) as were the Wright motors. Albert I. Lodwick was flight operations manager, W. C. Rockefeller was chief meteorologist, Charlotte Mays and G. R. Kitt were Hughes' secretary and assistant secretary respectively; Charles Perrine was chief of radio operation; G. E. Odekirk was Hughes' production manager; Stanley Bell was chief engineer. On the press, radio and newsreel staffs were Robert Wood, Perley Boone, George Rehm, J. Slocum, Claude Collins. Carl Tiedemann was in charge of food and clothing.

A little publicized angle of the flight was the securing of permission to fly over Germany.

"On June 28," Brown, Crosby & Co., Inc., report, "plans for Hughes' flight struck a snag. A permit to fly across Germany could not be issued until insurance requirements in German law were met. No one knew what the requirements were. The problem was referred to Brown, Crosby & Co., Inc., insurance brokers, whose aviation department is managed by William W. Brinckerhoff, secretary-treasurer of the Private Fliers Association. With the

aid of U. S. Aviation Underwriters, the National Aeronautic Association, and the Berlin office of the Bankers Trust Co., Brown, Crosby & Co., Inc., by telephone and cable, arranged the necessary insurance, totaling 300,000 marks legal liability, with the German Aircraft Insurance Syndicate in Berlin. Official confirmation was received for the U. S. State Department and the German foreign office. The German flight permit was issued on July 2, four days later. The insurance cost was \$32."

Hughes, who is 32, started flying at 14. He was born in Houston, Tex., son of Howard Robard Hughes, Sr., on Dec. 24, 1905. Education was at several private schools, California Institute of Technology and Rice Institute. He never was graduated. After his father invented an oil well drill of revolutionary type, he founded the Hughes Tool Co. He died when Hughes, Jr., was 18. The mother had died two years before. After a short period managing the tool company, Howard went to Hollywood, producing a string of successful movies, including "Hell's Angels." Later he entered aviation seriously:

On Sept. 13, 1935, he broke the world's land speed record over an official NAA course at Santa Ana, Cal., at 352.388-mph., using a ship designed and built at his own factory. Hughes Aircraft Co., formed in 1934.

On Jan. 13, 1936, he set a transcontinental speed record—9 hours, 28 minutes, 10-seconds in a Northrop—

from Los Angeles to New York.

On Apr. 21, 1936 he flew from Miami to New York in record time—4 hours, 21 minutes, 32 seconds.

In May, 1936, he flew from Los Angeles to Chicago in 8 hours, 10 minutes, 25 seconds.

On Jan. 19, 1937, he flew in his own racer, from Los Angeles to Newark in 7 hours, 28 minutes, 25 seconds.

He received the Harmon Medal for 1936.

Shortly afterward he was made aeronautics director for the New York World's Fair, for which his globe flying Lockheed was named—"New York World's Fair, 1939."

Richard Stoddart, radio engineer, was born in New York Dec. 1, 1900. During the war he held several positions. From 1919 till 1927 when he joined RCA's radio station at Chatham, Mass., he was a ship radio engineer. In 1929 he received his pilot's license. From 1929 to 1937 he was radio engineer with NBC, leaving that organization on a leave of absence to join the Hughes group. He is married.

T. L. Thurlow, navigator, 33, is a native of Santa Ana, Cal., and attended Leland Stanford University, and Army flying schools. He is a graduate of Kelly Field, 1929. He was commissioned a 2d lieutenant in the Army in 1929, and was stationed at Fort Crockett, Tex. He later studied at the Air Corps Technical school at Chanute Field, Ill., being promoted afterward to a first lieutenant. After serving at Rockwell Field, Cal., he joined the 19th Bombing Group at March Field, Cal., in 1935. A year later he was transferred to the instrument and navigation unit at Wright Field.

Ed Lund, Hughes' alternate engineer-mechanic, was born in Montana in 1906, worked for the Dodge Auto Co., in 1924, and in 1927 joined Douglas Airplane Co. In 1929 he went to the Thunderbird Airplane Co., as a fuselage technician, but left the same year to become shop superintendent for the Timm Airplane Co., where he remained

Round-the-World Crew



Washed and combed, but still unshaven, the quintet which reduced the girth of the globe (by a northern route) to a mere three days, nineteen hours and seventeen minutes, is shown posed above. Left to right, Lieut. Thomas Thurlow, navigator; Edward Lund, flight engineer; Howard Hughes, leader and pilot; Richard Stoddart, radio engineer, and Harry McLean Connor, navigator. *International News Photo.*

until 1932, when he took a similar job at Pacific Airmotive Corp. It was in 1932 also that he joined Hughes Aircraft Co. In 1937 he became general manager of the eastern branch of Charles H. Babb Co.

Henry P. McLean Connor, navigator, was born at Passaic, N. J., Dec. 26, 1899, and began his career at sea in 1920 after having studied in private schools. He received his master's certificate in 1925, and began studying air navigation while a navigator on the Panama-Pacific (Steamship) Line. In 1929 and 1930 he was navigator for Roger Q. Williams and was navigator on the first New York-Bermuda non-

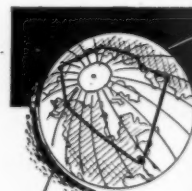
stop flight in 1930. The same year he was co-pilot and navigator for Capt. Erroll Boyd on a flight from Montreal to London, via Newfoundland. He again went to sea, but resigned after three years to experiment with seadromes. In 1935 he returned to sea for about a year. He is married.

Commercial Credits

Manufacturers have furnished AMERICAN AVIATION with the following equipment information:

The adapted Lockheed 14 was equipped with Wright Cyclone engines and Hamilton Standard hydromatic full feathering propellers. Lubricating oil

(Continued on Page 10)



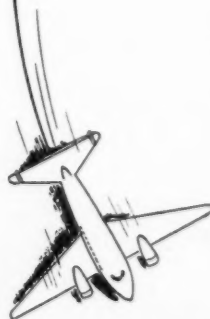
HOWARD HUGHES

makes **SOLAR** *news*

Solar manifolds were specified by Howard Hughes for installation on his round-the-world Lockheed model 14.

There is no substitute for experience.

It pays to specify "Exhaust Manifolds by Solar."



SOLAR *Aircraft*

COMPANY

LINDBERGH FIELD

SAN DIEGO • CALIF



Congratulations!

Howard Hughes

Lt. Thomas L. Thurlow

Richard R. Stoddart

Harry P. M. Connor

Edward Lund



LOCKHEED AIRCRAFT CORPORATION
BURBANK, CALIFORNIA, U. S. A.



Private Flying Boom

Busiest airport for private flying in the entire Northwest is not Seattle or Portland, but the small community of Beaverton, Ore. Charles Bernard, operator of Bernard Airport, has no less than 28 privately-owned airplanes hangared at his field. There are 24 hangars at present and 25 more individual "garage hangars" under construction. All 25 were rented before construction began. Bernard charges \$5 a month rental.

Commission Cost \$30,840

Columbia, S. C., July 18—Administration of the State Aeronautics Commission in 1937 cost South Carolina \$30,840, according to figures from the budget commission annual report. Revenue of \$26,840 was received from aviation gasoline. Classifications of expenditures include: salaries, \$6,482; travel, telephone, printing, repairs, \$3,679; supplies, fuel, office, \$2,406; rents, insurance, purchase of plane, \$4,835; equipment, office and motor, \$8,725; permanent improvements, \$4,732.

Bridgeport Tourists Hop

Bridgeport, Conn., July 16—The first state-wide air tour of Fairfield County flyers started today, with nine planes carrying 27 persons taking off for a 150-mile cruise to Danbury, Hartford, Meriden, and New Haven. Dr. Joseph L. Levy, president of Bridgeport Flying Club, and Horace D. Strong, manager of Municipal Airport, are directors.

HUGHES

(Continued from Page 8)

lines were protected with Cuno continuously-cleanable filters.

A Sperry gyro pilot and two Sperry directional gyros were used, as well as Kollsman and Pioneer compasses, Sperry artificial horizons, and special timing and navigation devices built by Longines. Kidde flotation bags equipped with carbon dioxide cylinders for instant inflation in case of forced landing on water were carried. Walter Kidde & Co. also built the carbon dioxide inflation cylinders in the collapsible life rafts, and the Lux airplane fire extinguishing system which protected both motors. Solar exhaust manifolds, Bendix and Fairchild radio compasses and Goodrich tires were used.

Tribute

"We are no supermen," Howard Hughes declared after his party's triumphant arrival in New York. "Any one of the airline pilots of this nation with any of the trained Army or Navy navigators and competent radio engineers in any of our modern passenger transports could have done the same thing."

"The airline pilots of this country, who in my opinion are the finest flyers in the world, face much worse conditions night after night during every winter. If credit is due anyone, it is due to men who designed and perfected to its present remarkable state of efficiency the modern American flying machine and equipment."

"Now if this flight has done a little to show that American engineers can design and American workmanship build just as fine airplanes, engines and aircraft equipment as anyone in the world, and if it should possibly increase the sale of American planes abroad and thus create a few new jobs for American men in the aircraft factories in this country, then I shall feel well repaid for my time and effort."

West Coast Gasoline Prices Lowest in U. S.

Prices of gasoline reported from the Pacific Coast by dealers and companies to AMERICAN AVIATION are lower generally than quotations from any other section of the United States, a survey of 24 cities reveals. Highest rates are from the South and Southeast, although Miami is an exception. Midwest prices vary between both extremes.

The lowest rate is reported from San Francisco and Oakland, where 73 octane gasoline was posted at 20½¢, including a tax of 4c on each gallon. Prices on higher grades varied proportionately. Inclusive prices in Los Angeles and Portland, Ore., for this grade were 21c and 23c respectively. Seattle's 26c report is the exception on the coast. New Haven's 22c surprised those who estimated the East average at 26c as in Washington, D. C.

Atlanta, Birmingham, New Orleans and Memphis reported 31c, 31c, 29.3c and 27.9c respectively.

Few differentials were announced. Birmingham Municipal Airport grants a rate of 27c a gallon (all grades) to permanently based operators. Memphis Airport receives a refund of 3½¢, of the 7c state tax, on each gallon sold at the field.

All prices listed were in effect May 1. Total assessment per gallon is listed where reported by correspondents. The table follows:

POSTED PRICES OF GASOLINE AT SELECTED AIRPORTS

City	73	Grade	80	Grade	87	Grade	Tax Included
Albuquerque08
Atlanta
Birmingham
Boston
Burbank
Chicago
Cleveland
Dallas
Denver
Detroit
Glendale
Houston
Los Angeles
Memphis
Miami
Minneapolis
New Haven
New Orleans
Oakland
Portland, Ore.
San Francisco
St. Louis
Seattle
Washington, D.C.

* Amount of Tax Not Reported.

99ers Meet in Oakland

Oakland, Cal., July 13—A dinner meeting of the 99ers was held at the Hotel Leamington last night to celebrate selection of Oakland as the official meeting place for all regional meetings of the club, which were formerly held in San Francisco. Among those who attended were Dolores Guinther, Marian Trace, Velma Johnson, Olive Bledsoe, Ruth Wakeman, Ruth Rueckert, Ann Cortmeyer Hansen, Astor Lewis, Patricia Kendall, Harriet Isaacson.

99ers Entertained

Pontana, Cal., July 10—Members of the 99ers visited Pontana today and were guests of the community at a breakfast at Fontana Inn. Mrs. Ethel Sheehy, of Pontana, past governor of the southwest district 99 group, was hostess. Visitors included Gladys O'Donnell, Melba Beard, Dorothy George, Esther Johnson, Maybly Bull, Wilma Fritschy, Georgina Benter, Grace Prescott, Evelyn Kilgore and Maurine Brunsvoid.

JOHN ROULSTON, graduate of Ryan School of Aeronautics, is now operating a flying school, charter service and repair station at Seal Beach Airport, California, using a Ryan S-T-A sport trainer for instruction work.

Touring Ports in Vacation

Whitman, Mass., July 11—Melvin Clark, one of the managers of Clark Airport, Hanover, Mass., and Dr. Howard C. Reed of this city, are spending a two-week vacation visiting the leading airports of the country, flying from one field to another in their own plane, with no formal itinerary. Dr. Reed will record the buildings and personnel of the various air terminals on movie film, which will be shown aviation boosters here on his return.

UNIFORM INSTRUCTION

BAC Inspector Harmonizing Methods to Avoid Confusion

Boston, July 25—Standardization of methods of flying instruction is being effected in five New England states under the guidance of Glynne M. Jones, BAC inspector, whose headquarters are in Boston. Jones' procedure is to explain to instructors what he expects, going over each maneuver with the aid of model planes, charts, and in some cases going up in a ship with the instructor.

"It has been found that there are four or five methods of doing flight maneuvers which tend to lead to confusion," according to R. C. Thompson, inspector-examiner in aeronautics for Vermont. "Also, the method of one instructor may be different from the wants of the inspector, and it would thus appear that the student was not qualified for a certificate while in reality he was flying as he was taught."

"Jones' plan is one that should be followed throughout the whole country because it would be fairer to the students and to the inspectors if each knew what the other was doing. It also would bring the different schools up to a standard and each applicant for a certificate would be judged according to what he knew."

"If a certain instructor teaches a method that is just what the inspector wants, it wouldn't appear to another instructor that he had been shown a lot of favors by the inspector while his students were being failed. This, of course, would not be necessary if each instructor went to the inspector and found out just what he was expected to teach. But as a rule they are prone not to discuss their flying for fear of being criticized."

30 Ships in Falmouth Show

Falmouth, Mass., July 18—More than 30 planes participated in the Cape Cod air carnival held at the Falmouth Airport recently. The program, which included an aerial parade, stunt flying, parachute jumps, and spot landing and "bomb" dropping contests, was under the direction of George B. Cluett II and Guy A. Ham, Jr. Joseph Sharcunas, of Bridgewater, won the spot landing contest, defeating John Green of Providence (New England spot landing champion) Henry Kent and Bill Stromeyer. Sharcunas finished second in the bomb dropping event, which was won by Guy Ham, Jr., with Bob Fletcher third. Contests were judged by Don A. Luscombe, president of Luscombe Airplane Corp., E. W. Wiggins and Dave Wadsworth.

Livermore Port Opened

Livermore, Cal., July 13—Completion of construction work on expanded Livermore Airport, now having a 4,100-ft. runway and fully equipped night lighting, makes possible a new emergency field for transports closed out of Oakland by weather. Previously, planes flew to Fresno or Sacramento. United Air Lines is installing fueling facilities.

MISSISSIPPI TOUR BIDS TO 5 STATES

More Than 350 Outstate Pilots Are Invited to Join Local Participants Leaving Meridian Aug. 24

Jackson, Miss., July 17—More than 350 flyers in Alabama, Arkansas, Florida, Georgia, Louisiana and Tennessee have been invited to participate in Mississippi's first state-wide air tour, starting Aug. 24 according to L. J. Folse, executive director of the Mississippi State Planning Commission. Col. Allison J. Holifield, state NAA governor, believes about 60 of the 97 private planes in the state will make the tour.

The project, proposed by Col. Al Key, of Meridian, member of the Mississippi aviation committee, is planned to study the state's aviation needs instead of exhibiting its strength in air equipment," it was emphasized, and is part of a program begun here June 29 when the state aviation committee appointed sub-committees to study the advisability of seeking legislation to provide for a state aviation commission or to organize a non-political state aviation association, or both.

"We must take immediate and aggressive action if Mississippi is to reap its just benefits from the airport and airways construction program which must inevitably be authorized by congress after the Civil Aeronautics Authority makes its report," Col. Holifield said.

The tour starts from Meridian Aug. 24 and ends at Biloxi on Aug. 26, with the following cities to be visited: Newton, Macon, Starkville, Aberdeen, Houston, Tupelo, Corinth, Oxford, Clarksdale, Greenwood, Greenville, Vicksburg, Jackson, McComb, Columbia, Laurel, Hattiesburg, Gulfport, Pascagoula and Biloxi. Gulf Oil Co. is furnishing free oil and gasoline.

PILOT ARRESTED

Denver Flyer Hailed Into Court For Night Flying

Denver, July 18—This city's first air traffic violator faced trial in Police Court yesterday and escaped with a \$50 suspended fine and a warning that from now on Denver's ordinance against airplanes flying over the city after 10:30 p. m. will be enforced. The flyer was Carl Markham, 34, arrested Sunday at Municipal Airport after a civic organization had complained to police. Markham said he had taken the plane up at the request of a group that wanted an early morning plane ride over the city. "You are the first offender to face me," Judge Philip B. Gilliam told Markham. "I understand that other pilots have been making a practice of flying over the city after hours. We are going to enforce the law and any further offenses will draw a fine."

Fined \$70 for Stunts

Providence, R. I., July 16—John P. Walker, 23, tonight was fined on two charges of low flying and flying without a license, after an hour of stunting two days ago. He was fined \$50 and costs by Clerk David P. Doyle on the low flying charge and \$20 for not having a license.

Two Steal Seaplane

Bar Harbor, Me., July 13—A \$9,000 seaplane owned by John Maher, of Bar Harbor, was stolen and flown 70 miles to Georges Lake today by two young men about 24 years old, one a former student pilot. They surrendered to police tonight. Capt. Burtis F. Fowler, state aeronautics inspector, said Edwin Johnson, the former flyer will be prosecuted.

Nat'l Guard Station Planned for Chicago

Chicago, July 24—Construction work will start Aug. 19 on a \$370,000 National Guard air station which will be located at Municipal Airport. The state memory board will supply \$204,000, and a PWA grant of \$169,199 will be available. City officials say the government, through the National Guard bureau in Washington, will install machinery and equipment valued at \$700,000.

The 108th observation squadron of the 33d division of the Illinois National Guard will receive 13 new \$50,000 planes to be stationed here permanently. A new hangar to be built near the headquarters building will have 37,000-sq. ft., with an entrance 200-ft. wide and 300-ft. high. The basement garage will accommodate 15 trucks.

Skowhegan Holds Meet

Skowhegan, Me., July 11—Twenty planes from Lewiston, Greenville, Farmington, Waterville, Augusta, and other towns, yesterday participated in the first annual air meet sponsored by the Skowhegan Aero Club. A large crowd witnessed the plane races, bomb dropping, spot landing, stunt flying and parachute jumping.

Balloonists Down

Buffalo, N. Y., July 16—Five employees of the Curtiss Aeroplane Co., and members of the Cleveland Balloon Club here, set out in an 80,000-cu. ft. balloon early today for New York but descended in a field near Cardiff, N. Y., because of adverse winds. The men were A. M. Fairbanks, Al Donovan, Ernie Bauer, Victor Kivaren, and Jack Rohn.

Oakland Traffic Aid

Oakland, Cal., July 12—A new training field, 2,000 by 3,500 ft., is to be opened shortly in the northwest corner of the Oakland Municipal Airport. The field is expected to solve a serious traffic problem which has been caused by transport and training planes using the same runways. The area was improved by the corporation backing the Pacific International Air Races and was used for grandstands, auto parking and for the takeoff of racing planes.

Show Attracts 10,000

Ionia, Mich., July 18—Ionia County's 2nd annual air show here yesterday attracted almost 10,000 persons, according to estimates of officials. Ernest Conrad, Lansing, won the final race for planes of more than 50-hp., as well as the spot landing event and the bomb dropping contest. Other winners were Herman Colback, of Beaverton, for aerobatics, with Urban Kampsen, Pontiac, second; Glenn Brink, Detroit, ribbon cutting contest, and Ralph Berry, Saginaw, for the race for planes under 50-hp.

Holmes Airport Still Open

New York, July 16—Although one flying service has been discontinued and real estate owners have taken over part of the tract, operators of Holmes Airport at Jackson Heights are continuing to maintain the field for private flyers, and newspaper and newsreel planes. Flyers expect to present a petition to Mayor LaGuardia asking conversion of the airport from a private to a public field, thus permitting condemnation proceedings. The airport management had announced recently that it would close the field.

Civic Tribute



These two men are synonymous with aviation in Oklahoma City. They are Moss Patterson, left, and Tom E. Braniff, president of Braniff Airways. The occasion for the picture was the presentation to Mr. Braniff July 1 of a certificate of tribute in commemoration of the 10th anniversary of the establishment of Braniff Airways. "No matter how difficult the going—or how hopeless the outlook, he moved steadfastly forward," the certificate read in part. Patterson is chairman of the aviation committee of the Oklahoma City Chamber of Commerce, sportsman pilot, and otherwise active in flying in the Southwest.

Indiana Assn. Elects

Indianapolis, Ind., July 13—Members of the Indiana Aircraft Trades Association tonight re-elected Capt. Clarence Cornish, manager of Smith-Baer Airport at Ft. Wayne, president. Other officers are Lawrence Aretz, Lafayette, vice-president; Clyde Shockley, Muncie, treasurer, and Herbert Fisher, Indianapolis, secretary. A committee will be named later to set a date and make plans for the annual state air tour, set tentatively for September.

Plan Seattle Show

Seattle, Wash., July 14—Seattle's 6th annual sky show will be held at Boeing Field Aug. 7, Palmer Lewis, chairman, said today. The show, sponsored by the Junior Chamber of Commerce, is being planned by the following committees: John O. Yeasting, Russell Bock, James Perine—finance; Raymond Ogden, Jr., J. E. Hergert, Erwin Axe, George Davis—field; Howard B. Doll, Jack Perine, Robert L. Smith—program; Frank P. Denney, Orville Borgersen—publicity.

Flying Service Gets Charter

Charlestown, W. Va., July 11—Clarksburg Flying Service, Inc., with an authorized capital stock of \$10,000, has been incorporated by M. R. Bingham, C. J. Fesler and Arnold Bates, all of Clarksburg.

San Diego Appointments

San Diego, Cal., July 13—Russell Kern, president of the local NAA chapter, announced last night that Earl Prudden has been named program committee chairman of the chapter. Other appointments are James F. Keefe, publicity and education; Tom Bomar, naval and military affairs; Ed Price, legislative; L. E. Earnest, membership; William Van Dusen, contest judging; Woodbridge Brown, glider development; Ray Booth, sport and private flying; James Roche, power model development, and Bert Naseef, contest development.

New Santa Monica Committee

Santa Monica, Cal., July 15—A committee of 11 has been appointed to serve as an executive group in studying possibility of enlarging the Municipal Airport here. Everett W. Morgan, chairman of the citizens' airport expansion committee, announces.



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SAFETY • VALUE
AND PERFORMANCE**

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\$525 Down

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**WAIT AND
COMPARE**

Taylorcraft's engineering leadership will continue to dominate the low-price field in the new 50 H. P. model. Final exhaustive tests are now being completed for early release.

★\$1565 F. A. F. Alliance, Ohio.
Balance easy terms. Deluxe
equipment additional.

Brings Flying Within the Reach of All

The advanced engineering responsible for Taylorcraft's exceptional safety and performance record was not developed by chance. Only through years of specialized experience could such an enthusiastically accepted design be made possible. Flying a Taylorcraft proves the advantages of its engineering leadership — why hundreds have purchased and named it the value leader in the low-price field. Taylorcraft's easy to fly characteristics instantly appeal to air-minded non-flyers — enthruses them to become owner pilots quickly at a cost they can afford. Your Taylorcraft dealer will be glad to demonstrate — write for his name and free descriptive brochure today.

TAYLOR-YOUNG AIRPLANE CO., ALLIANCE, O.
America's Safest and Finest Low-Price Airplanes

FRANCE HOLDS MOST AIR MARKS

Country's 52 Records Leading World, With Italy and U. S. Trailing

Italy, France and Soviet Russia have established 30 or more new international aircraft records in the last few months, according to the National Aeronautic Association. Out of 175 international records established to date, France holds 52, Italy 33, United States 19, Russia 18, Germany 17, Czechoslovakia 13, Great Britain 10, Poland 7, Belgium 3, Austria 2 and Japan 1.

The United States, it is said, does not hold one of the 27 official heavy landplane performances established so far, and holds but two of the heavy seaplane records: the maximum altitude performance and distance in a broken line.

Landplane records are as follows: airline distance record, Russia, 6,296 miles; maximum speed record, Germany, 380-mph.; 62-mile speed record over a closed course without load, Italy, 344.46-mph.; 621-mile closed circuit speed record without load, Italy, 326-mph.; 1,242-mile closed circuit speed record, carrying 4,409-lb. payload, France, 272-mph.

In the seaplane class, records are as follows: airline distance, Germany, 4,971 miles; maximum speed record over a three-kilometer course, Italy, 441-mph.; 62-mile closed circuit speed record without load, Italy, 391-mph.; 621-mile closed circuit speed record, carrying a 4,409-lb. load, Italy, 251-mph.; 1,242-mile closed circuit speed record, with a 4,409-lb. load, Italy, 246-mph.; 3,107-mile closed circuit, carrying 2,205 lbs., Italy, 192-mph.

France has a large lead in the light landplane classes, holding 17 records. Czechoslovakia holds 11, U. S. one and Russia, one.

Parks Air College Augments Radio Laboratory Equipment

East St. Louis, Ill., July 16—As preparation for giving its students 168 hours of instruction in radio maintenance during their two-year course, Parks Air College has built an addition to its radio department and has purchased and installed new equipment costing \$2,149.16. Charles J. Schwarz, M.S., E.E., is in charge of the radio laboratory. Training in radio transmission, offered in addition to the course in radio maintenance, qualify students to take their F.C.C. tests for the second class radio-phone operator's license and the second class code endorsement.

Ryan School Expansion

San Diego, Cal., July 19—The expanded engineering department of Ryan School of Aeronautics has moved into enlarged quarters in the main Ryan administration building at Lindbergh field here. The engineering section offers both one and two year courses in airplane drafting and design, and aeronautical engineering, and is directed by Stanley H. Evans, formerly with Douglas and Northrop companies in this country and with Handley-Page and Gloster in England.

Weems Announces Fall Classes

Annapolis, Md., July 16—Weems System of Navigation has announced the third annual enrollment of classes in navigation will take place in October at Fels Planetarium in Philadelphia and Hayden Planetarium in New York. Classes will be given in both dead reckoning and celestial navigation. The former course will be completed before Christmas and the latter by the end of April.

Keynote of the C. A. A. Administrator

Following are the concluding remarks by Clinton M. Hester from an address he delivered over the radio on July 18:

"Aviation is moving fast into a new era. The days of barnstorming at county fairs in flying box crates held together with bailing wire are over. Today, high competence, thorough planning, and businesslike administration are the keystones to success in aviation as in every other great industry.

"A large part of the glamour and romance has gone out of flying and as romanticists we may deplore this, but as practical persons we know that a dependable new mode of travel is not permanently built on romance. Aviation has survived the excitement of childhood, the fevers of adolescence. It has attained mature years and with them it has acquired the undramatic responsibilities that accompany maturity. Today our airlines traverse the United States from east to west and from north to south, span oceans, and carry on our commerce with foreign countries, transporting thousands of passengers and great quantities of mail, express and freight.

"It is no mere coincidence that the enactment of the Civil Aeronautics Act should be contemporaneous with the advent of this new period in the history of American aviation. The act goes into effect late next month. On its effective administration are rested the hopes of those interested in the future of aviation for a new era in the development of aviation. I am confident that those hopes will be fulfilled."

Floridans' Aerial Picnic

Jacksonville, Fla., July 14—The Jacksonville Aero Club sponsored this community's first aerial picnic Sunday when four planes set out for the uninhabited island of Talbot, east of Fort George Island. Several of the 18 members were ferried to the island after making part of the trip by other transportation. A downpour interrupted swimming, lunching, and fishing. Planes included a Lanier Vaciplane, known here as "The Jeep," owned by Ed Butts; a Taylorcraft owned by Claude Wells; a Stinson, owned by Laurie Yonge but flown by Palmer Holmes, and the club's Taylor Cub, flown by David Gannon, club instructor. E. F. Gallaher, publicity chairman, says the group is popularizing aviation in the area, and recently established a library of aviation books, under supervision of Fred Williams.

Okay Bond Issue

San Francisco, July 12—The Public Utilities Commission has recommended the sale of the first block of airport bonds. The first sale will repay \$65,000 advanced from other funds and meet land acquisition needs.

Gill Wilson Suggests 5-Mile Square "Super-Safety Valve" Airport for N. J.

Development of a five-mile square "super-safety valve" airport on the plains of New Jersey to provide for emergency airplane landings no matter what the weather might be, is suggested by Gill Robb Wilson, state director of aviation for New Jersey, in his annual report issued recently.

"The development of new transport equipment, larger, faster, and with greater fuel range, brings up a problem that should immediately be considered," he said.

"Under certain weather conditions no airport in existence on the east coast can be utilized by modern or future equipment for absolute instrument landings. Many concessions to safety are now made in canceling schedules where borderline weather conditions exist. Pilots will not bring aircraft down to fields close to cities unless a minimum visibility prevails.

"It is therefore suggested that the creation of a super-safety valve be studied for the east coast. This would be an area of land located away from any congested center and free from obstacles of any nature. It should be at least five miles square, of grubbed land, although the area need not be kept in airport condition except for several miles of stabilized runways. Here would be located radio equip-

Glider Winner



Peter Riedel, German entrant in the recent 9th annual American National Soaring Contest at Elmira, N. Y., is shown receiving gold replica of the Bendix Trophy emblematic of first position in distance flying from Herbert L. Sharlock, director of public relations for Bendix Aviation Corp. Riedel also received a \$500 cash prize for winning the 225-mile long distance flight from Elmira to Washington July 3.

59 Soarers Flew 5,841 Miles During Contest at Elmira

Elmira, N. Y., July 14—Statistics compiled following the 9th Annual National Soaring Contest held here June 25 to July 10 reveal that 20 gliders were flown by 59 pilots who made 270 takeoffs and covered a total mileage of 5,841 miles in official flights, according to Earl R. Southee, general manager. Total duration of official flights was 193-hrs. 20-mins. There were 60 flights which exceeded distance requirements (32 miles), 71 which overshot altitude requirements (3280-ft. above takeoff), and 34 exceeding duration requirements (5 hours). Minimum requirements for pilots with a passenger were 25 miles distance, 2,500-ft. altitude, and 5 hours' duration.

As announced in AMERICAN AVIATION July 15, the Edward S. Evans American Soaring Championship Trophy was awarded to Emil Lehecka, of Long Island City, high point scorer. Trophies and awards not previously mentioned follow:

Gov. Earle Trophy—To Peter Riedel, first pilot to make a goal flight to Harrisburg.

Edward S. Evans Barograph Awards —To Stanley Corcoran and Warren Merboth.

Fairchild Trophy—To Warren Merboth and Julian Hadley, holders of the highest number of points accumulated by one ship.

Institute of the Aeronautical Sciences Prize—To Ted Bellak, for his report on a soaring flight on July 8.

Fiduciary Council Prize of \$1,000—To Peter Riedel, first to reach Washington, D. C., from Elmira, N. Y.

TWA Prize (round trip for two, New York to Chicago)—To Emil Lehecka, holder of second highest number of points.

Following is the official point standing of the flyers at the close of the contest, Peter Riedel's foreign standing disqualifying him for the grand prize:

Peter Riedel, 1486; Emil Lehecka, 1271; Richard duPont, 968; Chester Decker, 870; Jack O'Meara, 859; Warren Merboth, 804; Alfred Bayer, 804; Floyd Sweet, 801; Robert Stanley, 679; Stanley Corcoran, 622; Stanley Smith, 236; Julian Hadley, 193; Robert Auburn, 161; Russell Hyle, 154; Theodore Bellak, 108; Nelson Shapter, 88; Don Stevens, 59; Dana Darling, 24; Robert Eikenberry, 24; Cleveland Hyde, 24; Joseph Funk, 24; Lewin Barringer, 24.

Pilots who completed requirements for Silver C rating are Merboth, Stanley, Bellak, Corcoran, Hadley, Auburn, and Sweet. Those who have fulfilled part requirement for Golden C rating during the contest are Riedel, Stanley, and Corcoran. Silver C requirements are 3,280-ft. altitude; 31.3 miles, distance; 5 hours' duration. Golden C requirements are a Silver C rating, 186.4 miles distance, and 9,840-ft. altitude.

Paul Class Winner is 17

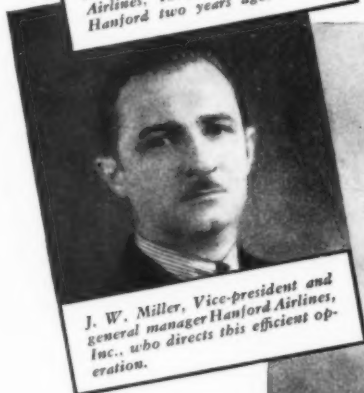
Oklahoma City, July 17—Johnny Bouteller, 17, after several hours of writing answers to examination questions and demonstrating his new skill in the air, today bested 25 other contestants and won a new two-place plane as the best all-around student pilot of an original group of 42 who enrolled in the Hiram Paul flying class at Wiley Post airport May 16. The plane is being donated by Paul, Oklahoma City merchant and aviation enthusiast, and the Burke Flying Service. Johnny soloed June 18 after 8 hours. Judges were Cliff Gible, Keith Kahle, Bennie Turner, A. J. Spicer, Bill Gartheoffner, and Lawler Reeves.

TEXACO SALUTES

HANFORD'S PHENOMENAL GROWTH



Thomas Fortune Ryan III, executive Vice-president of Hanford Airlines, Inc., who reorganized Hanford two years ago.



J. W. Miller, Vice-president and general manager Hanford Airlines, Inc., who directs this efficient operation.



**HANFORD
AIRLINES**

**"The Chief Line of the Mid-Continent Area"
Soars to New Heights Under New Management**

One of the success stories of the aviation industry concerns one of aviation's healthiest youngsters . . . Hanford Airlines.

In two short years, under the present management, service has been extended to Tulsa, and today includes the Silver Arrow flight, a direct through service between Kansas City, Omaha, Sioux City and Minneapolis.

All Hanford Chiefliners are Lock-

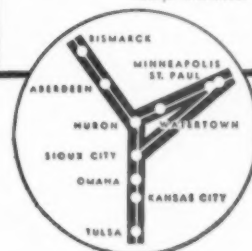
heed Electra 10-passenger ships, and all are fueled with Texaco Aviation Gasoline, lubricated with the New Texaco Airplane Oil.

To get the kind of service from your ships that Hanford has to deliver, get in touch with Texaco. 2108 warehouse plants assure prompt delivery. The Texas Company, Aviation Division, 135 East 42nd Street, New York City.

Hanford Highlights

for year ending July 1, 1938

Passengers carried 346% increase
 Passenger miles flown 424% increase
 Passenger revenue 379% increase
 Mail poundage 140% increase
 Express poundage 193% increase



NEW

TEXACO

AIRPLANE OILS

Newark Takes Slap

At N. Y.'s New Field

Rivalry between Newark, N. J., and New York City for possession of the metropolitan's main passenger and mail transport terminal broke into the newspapers July 15 when the *Newark News* reported from Washington that New York's elaborate new North Beach Airport now under construction has been criticized by aeronautical experts. Newark fears its airport will be abandoned by the airlines for the new field.

"Protests and condemnations of North Beach have been delivered to Mayor LaGuardia, Dock Commissioner MacKenzie in charge of the field development and the Bureau of Air Commerce," the newspaper's Washington correspondent asserted. "Runways are too close to Flushing Bay for safe landing and takeoffs, the administration buildings and hangars are badly located and the general design is productive of collisions, it has been asserted by such complainants as the Air Line Pilots' Association, the Air Reserve Association and several aeronautical engineers, including a former Army major who was employed by New York in a supervisory capacity on the field.

"Specifically, even if North Beach passes the tests which will determine its use as an airways terminal, it will have to prove a more desirable air mail terminus before the Post Office Department will approve the transfer of postal facilities there from Newark."

Preliminary tests of air mail delivery to and from North Beach, the paper says, "show the New Jersey terminal to be far superior with existing facilities," and states that even though North Beach should be adopted by the airlines as a passenger stop, transports still would be required to make Newark their first destination to take on and discharge mail.

Newark Cost Up

Newark, N. J., July 22—Cost of operating Newark Airport this year will be about \$110,000 more than in 1937, it was learned here today. The original appropriation for 1938 was \$220,414.54, and an emergency appropriation of \$40,000 to cover payrolls and other costs was authorized this week. Up to yesterday 1938 expenditures were about \$141,000.

15,000 to Ft. Wayne Show

Fort Wayne, Ind., July 17—An estimated 15,000 persons today witnessed the annual air show sponsored by the Aero Club, according to Capt. Clarence Cornish, manager of Smith-Baer Airport, show site. Harold Johnson, of Chicago, stunted with a tri-motored 14-passenger Ford transport, Vincent Burnett performed with a Travelair, and Buddy Batzel put on a delayed parachute opening. Charles Abel looped over the field in a glider. Chairman of the Aero Club show committee was Whitney A. Gregg.

Form Youth Group

Long Beach, Cal., July 18—Thomas R. Anderson, assistant scoutmaster of a Boy Scout troop here, has announced formation of the American Air Cadets, a national organization for boys of 12 to 18. The aim of the group will be to encourage study of aviation. It is planned to organize local squadrons throughout the U. S. Training, which will be non-profit and non-sectarian, will be open to all boys of the required age. Theoretical flying, navigation, construction, motors and drafting will be among the subjects studied.

RANDY ENSLOW. Roosevelt Field pilot who has been working with the Caribbean Petroleum Co., at Maracaibo, Venezuela, is spending a three weeks vacation in the U. S.

TWA and American Apply to R.F.C. for Loans

Two airlines are seeking loans from the Reconstruction Finance Corporation with which to purchase new transport equipment. Both lines have been turned down by the RFC, but in one instance the turn-down is tentative and will probably be granted after certain other data is furnished.

American Airlines, which several years ago borrowed \$3,000,000 from the RFC, applied for \$2,000,000 additional recently for new equipment. The application was refused but it is understood will be granted as soon as certain requirements are met.

Transcontinental & Western Air, Inc., also applied for a \$2,000,000 loan, payable within 16 years, but the request was denied. It is understood another application will be made.

TWA desired the loan to aid in purchasing four-engined Boeing 307's, six of which are under construction at the Boeing plant in Seattle. American has not committed itself on Boeings, but has figured on a purchase of six or seven of the 33-passenger ships. It would use the RFC money either for Boeings or other of the large ships to be available shortly for production by Douglas or Curtiss-Wright.

Baltimore Airport Delayed; Seaplane Base Progresses

Baltimore, July 16—Engineers said today that Baltimore Municipal Airport, nine years under sporadic construction, will not be available for landplane use for another year. Flying boat accommodations, however, for trans-Atlantic and Bermuda service, will be completed sooner. A modern terminal building housing offices of Pan American Airways' Atlantic division, and a new hangar are almost ready. Pan Am's offices open on a balcony circling the main lobby. A highway extension to the terminal from the city will be ready for use within a week.

Ask More Baltimore Space

Baltimore, July 20—Pan American Airways has threatened to move two sections of its Baltimore headquarters staff to Port Washington, L. I., because of inadequate facilities. J. Carroll Cone, division manager of Pan American, telegraphed G. H. Pouder of the Association of Commerce that "unless accommodations can be provided we will be compelled to transfer at least two departments back to Port Washington."

Mayor Howard Jackson said the city would attempt to solve the problem at once, although funds are not available. Use of the base by Imperial Airways, Air France and Dutch Lufthansa when Port Washington is closed by weather was said to be one of Pan American's reasons for stirring the city to action.

Tiny Plane Test Flown

St. Louis, July 16—James Malone at Lambert St. Louis Field today completed the first test flight of a biplane 12-ft. long, with a 13-ft. wingspread designed and built by Vincent Linberg, 25, a sergeant in the 35th division, aviation, Missouri National Guard. Linberg had worked on the craft in spare time for the past 18 months in a garage near his home. Parts and materials cost \$1,200.

BAC Staff Honored

Santa Monica, Cal., July 12—Joseph Marriott, regional supervisor of the Bureau of Air Commerce, which has opened offices here, was the guest of honor today at the weekly meeting of the Santa Monica-Ocean Park Chamber of Commerce. With him were H. T. Bean, chief of the airways engineering division; G. W. Hammond, chief of the administrative division, and E. R. Scroggie, general inspector. Between 350 and 400 persons are employed by the bureau in this region, including 50 at Santa Monica office, Marriott said.

Open Malone, N. Y. School

Malone, N. Y., July 18—Two licensed pilots, Clarence Dufford and Frank Buswell, who established a flying school here three months ago, have signed eight students. Planes available are a Pitcairn Mailwing, and a Waco F.

START ATLANTA TOWER Airport Project Costing \$26,183; Group Asks Larger Field

Atlanta, Ga., July 11—Construction of a six-story, \$26,183 control tower, which will contain administration offices, waiting room space, a promenade deck and quarters for federal officials, was started at the Atlanta airport today. The Smith-Pew Construction Co., which is building the concrete, steel and stucco tower, has promised completion in 125 working days.

Atlanta's public improvements committee has reported that more than 200 acres of land adjacent to the airport should be obtained for additional runway space. Total estimated cost of such a project is \$735,000, with plans for WPA furnishing \$500,000 for labor and the city and county paying \$150,000 for materials and \$85,000 for land. Because the city and land owners have not been able to agree on the price to be paid, the committee has recommended condemnation of the property.

Citizens Demand Field

Armonk, N. Y., July 12—Following the crash of a sight-seeing plane in an orchard near the airport July 10, killing four persons, the Westchester Air Pilots' Association and Armonk citizens are petitioning Westchester County to acquire and develop the Westchester Airport here. The pilot of the sight-seeing plane attempted to land on an 1,800-ft. runway. Petitions ask that runways of at 3,000-ft. be built and that other safety measures be provided.

Dedicate Utah Airport

Bryce Canyon, Utah, July 7—Formal dedication of Bryce Canyon Airport yesterday included addresses by J. E. Garn, state director of aeronautics; P. P. Patraw, superintendent of national parks in Utah; Benjamin Cameron, Jr., early backer of the project and former official of the Associated Civic Clubs of Southern Utah. An unusual feature of the airport is the large log hangar, which is constructed mostly of native materials. The Ponderosa pine logs were cut from nearby forests by local workmen. A log structure effect was given the hangar by leaving the natural bark finish on the outside of the logs.

Start Norfolk Hangar

Norfolk, Va., July 15—Preliminary work has begun on a new concrete hangar 120-ft. by 100-ft. with a temporary rear wall to permit eventual extension to 150-ft. Leantos 25-ft. wide will be erected on each side of the building, one to accommodate the manager's office, locker rooms, and supply shop and the other serving as garage space for 10 cars. The highway commission has made a cash grant of about \$15,000 for other port aids.

Name Air Committee

Yakima, Wash., July 13—A special aviation promotion committee of the Chamber of Commerce has been appointed, headed by Dr. H. S. Skinner, and aided by Lincoln Shropshire and Warren White.

Obituary

COLUTER, RICHARD W., former director of Pennsylvania-Central Airlines, was killed at Pittsburgh, Pa., July 20, when a training plane in which he and Elmer Kerti, of McKeesport, Pa., were flying crashed near Bettis Airport. Kerti was seriously injured.

RUSSELL B. HURLBURT, 51, assistant export manager of Pratt & Whitney Division of United Aircraft Corp., died July 17 at his home in New Rochelle, N. Y., following an illness of 6 weeks. The son of the Rev. and Mrs. Rollo F. Hurlburt, he was born in Epworth, Ia., and graduated from Cornell University in 1910. In 1916 he married Miss Amy Budd Chapman, of Flatbush, N. Y. From 1929 to 1936 he was foreign representative for P&W. He is survived by the widow, a daughter, Janet, and a son, Blair, all of New Rochelle.

LIEUT. DONALD W. McILHINEY, 40, aviation expert and editor, and one of the founders of the Quiet Birdmen, died July 10 at South Yarmouth, Mass. After graduating from Columbia University, Lieut. McIlhiney entered the Army, joining the aviation service during the War, being stationed at Dayton, O.

At the close of the war he edited an aviation magazine, resigning when he became interested in radio and telephone. He returned to the magazine but resigned again to become affiliated with the Bell Laboratories. Lieut. McIlhiney was a member of the Reserve Officers Corps and the North Shore chapter of the Reserve Officers Association.

BEN TORREY, 43, manager of Red Bluff, Cal., airport, was killed July 20 in a plane crash near the field.

EARL K. CAMPBELL, 40 manager of Moline, Ill., Municipal Airport, died July 7 in Iowa City. Campbell learned to fly in 1916, and enlisted in the air service during the World War. Instead of being sent to France, however, he was assigned to Park Field, Memphis, Tenn., as aviation instructor.

From 1919 to 1921 he was a barnstormer, visiting 93 cities. Later he sold planes for the Curtiss Company at Fort Dodge, Ia., and built hangars for his Midwest Flying Service at Waterloo, Ia., and Monmouth, Ill.

He engaged in aerial photography in 1922 and 1923, and later established and managed Franing Field, a part of the present municipal airport, and was an organizer of Campbell-DeSchepper Airplane Company, which operated the Moline field for years.

In 1928 he broke the existing altitude record for commercial planes by flying a Fairchild to 24,000 ft. The following year he joined the newly formed Curtiss-Wright Flying Service and became division manager, and in 1930 became chief test pilot and a consultant in design for the Curtiss-Wright Corp. He held this position until 1936, resigning because of illness. The *Des Moines Register* in an editorial on Campbell's death said, "Rusty" was a sweet character as well as a "swell" flyer."

Orleans Completes Project

New Orleans, La., July 9—Colored lights were turned on four sculptured figures forming a fountain at Shushan Airport last night, marking the completion of a \$233,000 two-year improvement program sponsored by the WPA and the Orleans Levee Board. The figures, which represent the four directions, were designed by Enrique Alferez, New Orleans sculptor. The WPA furnished \$175,000 of the \$233,000 and the Levee Board provided the remaining \$58,000. Also included in the project were the laying of concrete curbing and roadway, subsurface drainage.

United Opens First Functionally Designed Operations Bldg. in U. S.

Chicago Quarters Modern to an Extreme with Elaborate Medical Laboratories; Only Plant of its Kind

The new operations office building just opened by United Air Lines at Chicago is without a doubt the most pretentious airline establishment in the United States in the opinion of aviation experts. It is the only one that can be considered as having been functionally designed. United uses the term "streamlined" when referring to its new headquarters across the road from Chicago Municipal Airport, but more sober observers are prone to reflect that here is the first building designed and constructed to meet the needs and retain the tempo of modern air transportation.

When J. D. Chritton, UAL engineer, set about to put plans on paper, he had no precedents to follow. AMERICAN AVIATION can state without perturbing Mr. Chritton's innate modesty that he has pioneered in a form of building construction and architecture—along purely functional lines—in such a way that the next 10 years should see similar buildings constructed by other large domestic operators as the business of carrying passengers by air leaps forward.

Those who have seen the business grow during the past 12 years will find the UAL operations palace an eye-opener. Only a few years ago a makeshift corner space in a hangar office was all that was considered necessary. Even today on some of the smaller lines, the operations department is anything but elaborate. The UAL building symbolizes the bare fact that airline operations is rapidly rising to the level of a business institution requiring all the appurtenances of larger and older industries.

Executive offices of the company will remain at the LaSalle-Wacker Building in downtown Chicago. This new structure at 5936 South Cicero Avenue, houses some 130 employees formerly taken care of in the four hangars on the airport. A visitor discovers that the new building—measuring 250 by 50 feet—just about "has everything" in the way of the newest office equipment.

It boasts washed air and air conditioning equipment, solid glass windows shaded by aluminum Venetian blinds, carefully selected painting and decoration planned to prevent eye strain, a conning tower with the latest in amber-glow neon lighting, special hot water heating, ceilings of acoustic tile, several soundproofed offices and a completely sound-proofed room for examination of pilots in hearing tests. All of which

sounds like a press agent's publicity plug until one makes a visit for himself.

What will startle the old-timers is the medical department, under supervision of chief flight surgeon-medical director Colonel A. D. Tuttle, late head of the Aviation Medical School at Randolph Field. Here is an up-to-date clinic of eight rooms, including costly x-ray and medical laboratories and a special eye, ear, nose and throat department with a combination refractor for eye tests, and other aids for examination of pilots and stewardesses as well as the entire personnel. There are also rooms for basal metabolism and Schneider Index tests.

Without exaggeration, the medical department is a miniature Mayo Clinic. Some of the equipment is not only rare but represents a substantial cash investment. For its purpose, the clinic is undoubtedly among the best in the country.

In the basement is the food service department under supervision of D. F. Magarrell and his aide, Ada Williams, dietician. Here again no money was spared in the equipment with plenty of gadgets to delight any housewife. At present some 150 meals are prepared daily and the kitchen is part of UAL's program of gradually taking over under its direct management the entire problem of food for its planes. An experimental kitchen is being installed and a cafeteria will be opened later for employees.

The building also houses offices of the following: Vice-President, R. W. Schroeder, operations; General Superintendent S. V. Hall; Director of Flying R. T. Freng; Director of Communications J. R. Cunningham; Director of

Physicals for All

With the opening of an elaborate medical clinic in its new operations building at Chicago Municipal Airport, W. A. Patterson, president of United Air Lines, intends to inaugurate a policy of requiring a medical examination for each UAL employee at least once a year. This includes everyone from top executives to stenographers and porters. It will be a company-wide health policy. All crews on the line will be "looked over" at least once a year while those based at Chicago will be examined twice a year. This is all supplementary to examinations for pilots and stewardesses.

Engineering J. A. Herlihy; Personnel Director T. B. Marshall; Director of Passenger Service R. E. Pfennig; Purchasing Agent E. Van-Vechten; Chief Stewardess Marie Hess, their staffs, and the accounting, trip service, research, maintenance and overhaul, and field accounting offices.

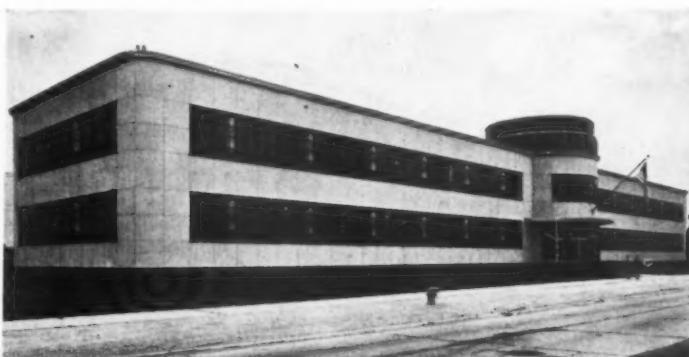
One of the unique features of the building is the P.A.X. system automatic telephone, which even includes a connection on the field. Pneumatic tubes also add to the general speed-up efficiency of the structure. There are large and well-lighted offices for executives, conference rooms, and rest rooms equipped with showers and electric razors.

A two-story and basement structure, it is built of reinforced concrete with a facade of Indiana limestone and black granite relief. The lobby has a rose compass floor centerpiece and the walls will have photo murals.

United Opens New Kitchen

United Air Lines has installed a well-equipped commissary kitchen devoted entirely to preparation of meals for air travelers at Swan Island Airport, Portland, Ore. Oswald Webber, Swiss chef, is in charge, with Ralph Hess and Hosea McMillan as assistants.

United's New Chicago Plant



United Stockholders Get Low Fare Rate To Inspect System

Chicago, July 27—Stockholders of United Air Lines will be permitted to ride between any two points on the system for half fare from Aug. 3 to Aug. 20, in order to encourage inspection of the company's equipment, facilities, operations and service practices, W. A. Patterson, president, announced today.

"Many stockholders in this company do not have first-hand information regarding our investment in equipment and facilities, our operating policies, and the standard of our service," the president said in a letter mailed to stockholders today. "We believe it will be advantageous to you and the company if you become better acquainted with United Air Lines."

"This improved acquaintanceship will not only give you more complete information on your investment, but will better enable you to inform friends and business associates of United's operations and the utility of United's service. . . . The enclosed card, when signed by you, as a stockholder of record, in the presence of a United Air Lines representative, will be authority for you to purchase one round trip or one-way ticket for your own use between any two points on United Air Lines' system at one-half the regular published tariff."

UAL to Ask More

Mail Pay—Patterson

Cheyenne, Wyo., July 8—United Air Lines will not wait for the new C. A. A. to revise mail pay. W. A. Patterson, president of United Air Lines, stated in a letter released here yesterday that UAL will apply for increased air mail rates as soon as the new Civil Aeronautics Authority is established. The I. C. C. at present cannot grant an increase because the company is already receiving the maximum provided by law, Patterson stated.

Lower left: Lobby of UAL operations building showing glass tile windows, rose compass floor centerpiece, and indirect lighting. Photo murals will occupy wall space.

Left: Exterior view showing conning tower with amber-glow neon lighting. The building is opposite the UAL hangars on Chicago Municipal Airport.

Below: Model kitchen in basement in which meals are prepared for UAL passengers. Near by will be an experimental kitchen. UAL eventually will prepare all meals for its line instead of being serviced by caterers.



TWA Offers Boeings to UAL & American But is Turned Down

Transcontinental & Western Air, Inc. proposed on July 9 to United Air Lines and American Airlines that those companies purchase two Boeing 307 transports each in a cooperative arrangement by which each of the three transcontinental lines would operate two Boeings on alternate schedules. Both United and American turned down the proposal.

TWA has six 33-passenger Boeings on order and it would be this group of six which would be divided up among the three coast-to-coast lines. The Boeings were to be ready for operation early this fall but because of many changes made in the planes, the first of TWA's Boeings will not be ready for testing until next February. Only possibility of earlier delivery would be the dropping of a number of alterations which TWA desired. Present view of the Boeing company is that the fleet can't be in operation until next spring.

Meanwhile it appeared that Pan American Airways, which has three of the stratoliners on order, will take delivery on the first three ships off the assembly line because of the alterations requested for TWA's ships. Originally Pan Am was to take the first ship and TWA would get its six next. But unless plans are changed, PAA will have its three ships by late summer. Because of delays, TWA has lost its option on future purchases of the 307's, which leaves the way open for American Airlines to purchase ships without paying an additional privilege price to TWA. Only two of the 307's are out of the jigs at Seattle and three are in the jigs.

Anniversary



On the completion of United Air Lines' 11th year of operation recently, Jack Knight, veteran UAL pilot and director of education for the company, flew a special DH to New York to commemorate the anniversary. Here Knight is shown in plane with William Maxwell, right, UAL station manager at Newark, and Pete Berger, chief mechanic at Newark.

They've Flown Twelve Million Miles



These 10 pilots have completed a decade of service with American Airlines and its predecessors, all having started during the first six months of 1928. They will be awarded 10-year pins by C. R. Smith, president of American. Together, they represent 100 years of combined service, more than 12,000,000 miles of flying, and about 107,000 hours of flying time.

Top row, left to right: C. F. Pedley, native of Cedar Rapids, Ia., with 12567:41 hours; J. W. Johannpeter, native of St. Louis, with 10248:20 hours; B. W. Robinson, native of Perry, Ill., with 9597:20 hours; W. P. McFall, native of Minneapolis, with 8695:10 hours; H. J. Rader, native of Columbus, O., with 11129:36 hours; and Harold B. Russell, native of San Diego, Cal., with 11273:04 hours.

Second row: J. F. Westover, native of Hyannia, Neb., with 11207:51 hours; B. A. Carpenter, native of Carl Junction, Mo., with 10748:23 hours; R. J. Rentz, native of Minneapolis, 8991:11 hours; and Ray Fortner, native of Vincennes, Ind., with 12560:42 hours. Computed hours included those of June 1. All ten pilots are married.

Air Travel Week Oct. 1-9

The nation's airlines plan a National Air Travel Week, tentative dates for which are Oct. 1-9, to be the largest cooperative venture so far staged by all of the airline companies. Advertising and promotion in newspapers, magazines and on the radio is scheduled. First step was appointment in Chicago on July 25 of T. Park Hay as general director of the campaign. Hay was formerly public relations director for TWA and more recently was with the Federal Advertising Agency which has loaned him to the airlines until after Air Travel Week is concluded.

C. R.'s Million Dollar Attraction

C. R. Smith, president of American Airlines, is credited with pulling the neatest trick of the year in the way of promotion. When Doug Corrigan landed at Roosevelt Field non-stop from Long Beach, Smith thought he would try to sign Corrigan up on a contract to fly the return trip non-stop and then retrace the route stopping at all cities served by American's southern transcontinental line. Corrigan was approached, found agreeable, and a contract was signed. Price: \$500.

Next thing C. R. knew was that Corrigan landed in Ireland and immediately was being deluged with offers of all kinds. But the American contract is understood to be binding—and that includes all of Corrigan's activities. It is understood that C. R. will not keep the price at a mere \$500 now that Corrigan is one of the greatest drawing cards aviation ever had, and is only too anxious to have the incredible Irishman reap all benefits possible. C. R.'s subordinates now are crediting him with being a mystic for sewing up a million dollar attraction for \$500.

Airlines Lead Movies in Serving Public

Although air transport affects directly only a fraction of the number of persons influenced by the motion picture industry, a survey in the current issue of *Fortune* magazine reveals that U. S. airlines are rated higher in terms of "giving the public what it wants" than Hollywood.

The question asked by *Fortune's* interviewers was "Which of these four industries (automobile, radio broadcasting, air transport, moving pictures) has gone ahead the fastest in giving the public what it wants?" Mechanical improvement was not considered.

"Analysis of the answers shows that

air travel outranks movies in the approval of each economic level—except the Negroes—even including the poor whose chances of flying are nearly nil," *Fortune* reports. "Women and oldsters, still cautious of the hazards of flight, also give the movies a slight edge upon airplanes, but very slight."

Both the automobile and broadcasting industries lead air transport, as might be expected considering their intimate daily relation with the masses. Voting the motor car industry first in progress were 43.1% of those interviewed; 29.2% favored broadcasting; 9.8% voted for air transport, and 9.5% favored motion picture industry. Another 8.4% could not decide.

WAE Issues Unique Air Log Featuring Geology and Accuracy

The most elaborate air log yet to be published by a domestic airline for use by travelers has just come off the press for Western Air Express. Instead of following the present trend of air logs toward comical caricaturing, WAE has expanded upon the original idea of giving the traveler an accurate map of the country over which he is flying.

One innovation is a speed, time and distance calculator on the back cover which undoubtedly will interest many travelers. The log is accurate in detail and contains an entire section on the geology of the course.

"The geology of our course in particular is outstanding since most of the territory is comparatively clean of vegetation so that the exposure permits one to study the visible geological formations in detail, adding materially to the passenger's enjoyment of his trip," according to Tom Wolfe, vice-president—traffic.

Those who assisted in the preparation of the log were Dr. Ian Campbell, geologist of the California Institute of Technology; Robert Fletcher, traffic engineer of the Montana Highway Department; Eugene S. Perry, head of the department of geology of the Montana School of Mines; George Albert Smith, Salt Lake City historian, and John D. Giles, secretary of the Oregon Trail Association. A foreword was written by Alvin P. Adams, president of WAE. Mileage charts and a history of the line are also provided.

San Antonio Launches Drive for New Airlines

The aviation committee of the San Antonio, Tex., Chamber of Commerce recently announced the formulation of a long term program with the object of making the city the greatest air center in the southwest. Plans to enlarge the committee sponsored by the Chamber, are being made by C. F. Dieter and the present members of the committee.

Passenger and air mail service between San Antonio, Amarillo and Denver is sought by the committee and a representative was sent to Washington recently to confer with the Post Office Department. The P. O., however, after a survey of the route, took no action, mainly because an appropriation was not available. The committee plans to take the proposal up with the new Civil Aeronautics Authority.

Other routes sought include one from San Antonio to El Paso, and from San Antonio to Mexico City, but the Post Office has not been receptive to either of these.

Wright Field Changes

Dayton, Ohio, July 12—Major Harry Reichelderfer, for the past three years executive of the Wright Field aircraft radio laboratory, has been ordered to attend the Army command and general staff school at Ft. Leavenworth, Kan. He is succeeded by Major E. R. Petzing, while Capt. Gilbert Hayden succeeds Maj. Petzing as chief of the communications unit. Lieut. Robert G. H. Meyer, of Chanute Field, has been transferred to succeed Capt. Hayden as second officer in the communications unit of the laboratory.

Three Army Projects Start

San Antonio, July 16—Construction work has begun on a new \$340,000 barracks building, for 104 cadets at Randolph Field, according to Capt. E. V. Dunstan, construction quartermaster here. Ground will be broken soon at Kelly Field and at Fort Sam Houston on two similar projects. \$1,747,000 has been appropriated for Kelly work, and \$1,730,000 will be spent during the next few years at Fort Sam Houston.

YESTERDAY'S PROMISE IS TODAY'S REALITY!

Not only is the 42-passenger Douglas DC-4 the world's largest but also its most luxurious commercial land plane. Built for five major U. S. airlines this Sovereign of the Skies provides luxurious berths for 30 persons, has a "bridal suite", a "charm room" for the ladies, a dressing room for men, an electric kitchen and a dining service up to the standard of exclusive clubs. The plane is sound proofed, air conditioned, steam heated; provides hot and cold running water and even a telephone system connecting with any exchange in the nation. Write for a booklet describing the DC-4. Douglas Aircraft Co., Inc., Santa Monica, California.

spaciousness and new comfort.

Telephone connects with land exchanges.

The "Charm Room" has every facility for milady's comfort.

The Main Cabin provides 40 individual lounge chairs.

Chairs make up into luxurious single or double beds.

The Private Compartment is complete in every detail.

Full course meals, will be served in the grand manner.

DC-4

DOUGLAS

UNITED AIR LINES...TWA...AMERICAN AIRLINES, INC....EASTERN AIR LINES...PAN AMERICAN AIRWAYS

Indian Trading and Peace Pipes

Western Air Express Leased an Airport from the Blackfeet Indians in Glacier National Park and the Event Had All the Pomp and Ceremony of the Ending of a War. These photos were taken at the grand opening June 17.



Tom Wolfe, WAE vice-president, takes a puff of the pipe of peace as it is passed down the line. Looks like quite a puff.



Fowler W. "Sam" Barker, Secretary of the Air Transport Assoc., and Dick Leferink, president of Inland Air Lines, rest on an old chief. Dick is never without his pipe.



Tom E. Braniff, president of Braniff Airways, dances with his adopted chief's squaw, Soft-woman Heavybreast, who was one of the owners of the land.



Steve Stimpson, UAL traffic head at San Francisco, chats with his adopted "father," but the poor guy couldn't understand English.

BEFORE Western Air Express could extend its service into Glacier National Park, the company had to do some tall dickering with the Blackfeet tribe of Indians for a landing field. Under direction of Al Adams, WAE president, the company agreed to pay the Blackfeet \$175 a year under a five-year lease—but the Indians made sure the money was paid in advance.

On June 17 WAE took a group of officials to the park, showed them the radio station and airline office in a tepee, and broke bread and puffed on the peace pipe with the Blackfeet. They wanted



Earl Popp, BAC airport expert for the northwest, adopted into the tribe (above in circle) and seems to be taking matters casually.

to take each visitor into their tribe but before this could be done, each visitor had to be "adopted" by a "father" chieftain.

Al Adams is Chief Bear Cap. Jimmy James, WAE operations manager, is Chief Pivoting Bull, and his "father" was Chief Three Calves. Other names included Chief Louis Day, Chief Chew-black-bones, Chief Robert Many-hides, Chief Rides-at-the-door, and one (whose ancestors probably wandered off the reservation) was named Rosa Hagerty. Three plane loads of Indians were taken up on sightseeing flights. They were stoic throughout with no indication of either fear or delight. The aged chief who posed with Al Adams in one of the adjoining photos wears a uniform deeded to him by the late General Hugh Scott who fought the Indians many years ago. (He puts on the ancient garb on ceremonial occasions.) The medal, of which he is very proud, was given to him years ago by the late Rodman Wanamaker.

Third from bottom on left is Seeley V. Hall, United Air Lines general supt., shown squatting for the ceremonial.

Second from bottom is Ed Bryan, director of aeronautics for Idaho, who knows all about building landing fields in mountainous regions.

L. H. Dwerikotte, secretary of WAE, whose Indian name is Chief Last Star, is sitting next to Chief Weasel Feathers.



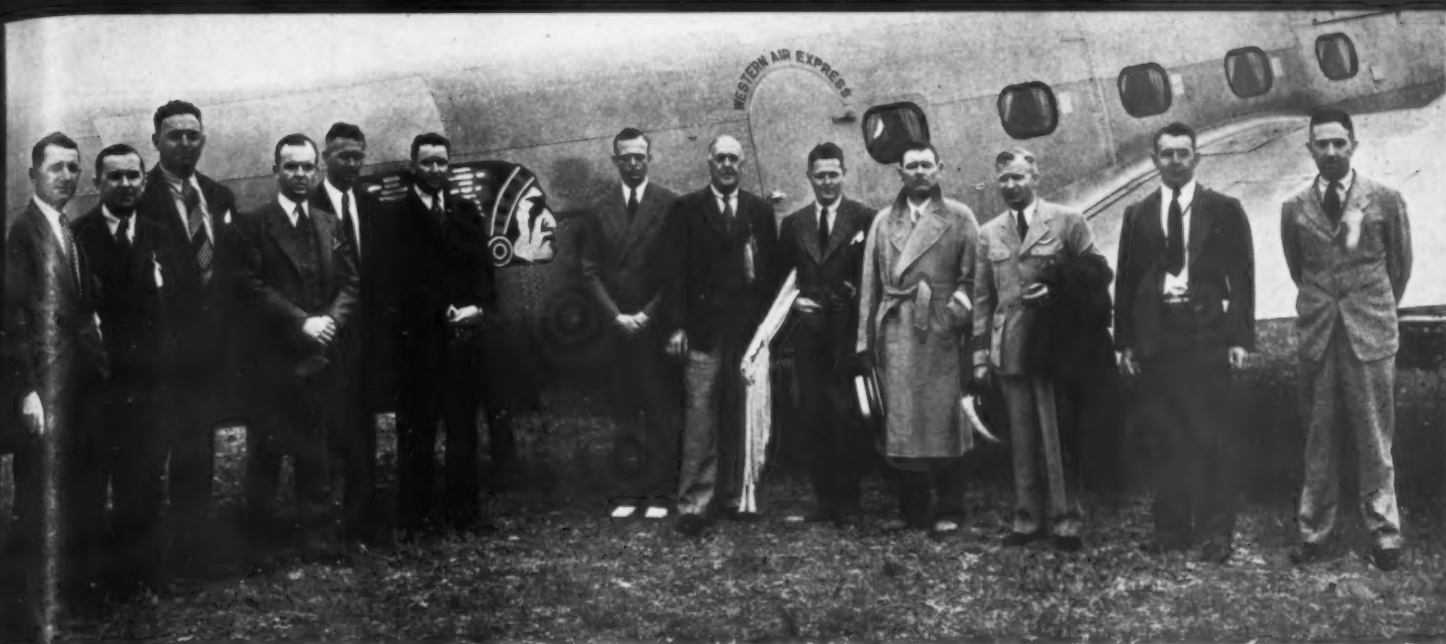
A. W. Stephenson, WAE chief pilot who knows the Indian country well, was the only one who could speak the language. Stephenson pioneered flights into the Montana area.



Above, Jimmy James and Tom Wolfe, both of Western Air, not quite as interested in the camera as one of their Indian hosts.

Below, Alvin P. Adams, president of WAE, and one of the oldest Blackfeet chiefs, whose age is over 100 years. (See text).





Demons of the Sky Conquer the Grim Blackfeet

When Western Air opened up its Glacier Park extension June 17, it was host to an airline party at the home of the Blackfeet Indian tribe. Above are, left to right, Ed Bryan, Idaho Aeronautics Commission; Seeley V. Hall, United Air Lines; Earl Popp, BAC airport supervisor; Steve Stimpson, United Air Lines traffic manager of San Francisco; John Trunk, BAC inspector; Jimmy James, Western Air's operations manager; L. H. Dwerlkotte, Western Air's secretary; Binnie Tait, California aviation enthusiast; Al Adams; Dick Leferink, president of Inland Air Lines; A. W. Stephenson, WAE; Tom Wolfe, WAE vice-president, and Fowler Barker, secretary of the Air Transport Association. Absent from photo is Tom E. Braniff, president of Braniff Airways.

Mainland to Marquette

Gordon Mainland, who has been sales representative of American Airlines at Cincinnati for 10 months, has been appointed general traffic manager of Marquette Airlines, effective July 15. Frank Kirchberg, 23, American's youngest sales representative, succeeded Mainland, being transferred from Chicago. Mainland's territory includes Cincinnati, Dayton, St. Louis, and Detroit. His office is at the Hotel Gibson.

New Era



Joseph B. Keenan (right), Assistant to the Attorney General of the United States, receives from D. Walter Swan, United Air Lines' Washington Manager, the first government air ticket sold under the provisions of the new Civil Aeronautics Act. Under this act personnel of the U. S. Government are permitted to use air transportation without regard to comparative costs of other modes of transportation. Mr. Keenan ranks as one of the most widely traveled air passengers in connection with his Department of Justice work.

Pilots Spot Forest Fires

Cheyenne, Wyo., July 15—J. S. Veeder, supervisor of Medicine Bow National Forest, has formally thanked Inland Air Lines for reporting a forest fire on Buffalo Mountain recently. Marvin Landes, vice-president of Inland, stated that the company's pilots fly over the region twice a day and "when they spot smoke, which indicates a forest fire, they immediately radio to one of our ground stations, which in turn makes a report to the nearest forest ranger station."

Western Air Says It Started Half Fares

Western Air Express and not Chicago and Southern was the first to announce that children would be transported for half fare, according to James M. Keefe, district traffic manager of WAE at San Diego who writes that his line should have the credit for the idea. Chicago & Southern was credited with starting the new plan in the July 15 issue.

"We of Western Air Express take issue with your article as we feel that we were the first to originate the idea," Keefe says. "We are attaching our traffic bulletin No. 109, dated May 4, 1938, announcing half fare rates for children. This bulletin was sent to all our offices and agents."

The bulletin stated that children between the ages of 2 and 12 (including 12) would be charged one-half the published air fare between cities on the line, adding that "This innovation opens a new market for air transportation. Now it is possible for the entire family to fly WAE to the many national parks on its routes at an especially low cost."

(Editor's Note: Accuracy concerning traffic stories will be greatly heightened if each airline will place this magazine on its list to receive all traffic bulletins. We aren't mind readers—quite!).

Ask Air Mail Line

Evansville, Ind., July 15—A petition asking for establishment of air mail service between St. Louis and Charleston, S. C., via Evansville was signed by city, county, postoffice and club officials today and will be sent to the Civil Aeronautics Authority. Signing followed a meeting at the Chamber of Commerce, with Robert L. Stilwell, chairman of the chamber's aviation committee, in charge. Dexter Martin, head of the South Carolina Department of Aeronautics, accompanied by Charles C. Moore, Spartanburg, S. C., and M. F. Schnibben, Florence, S. C., flew from St. Louis to attend the meeting. Martin said six states will join in the petition: South Carolina, Indiana, North Carolina, Kentucky, Tennessee and Missouri.

Cuts N. Y.-Boston Fares

American Airlines on July 20 reduced one way and round trip fares between New York, Hartford, Providence and Boston, due to increased passenger revenues and improved business conditions, according to Charles A. Rheinstrom, vice-president in charge of sales. Ten through schedules are run daily each way between Newark and Boston, with planes making two stops each way at Hartford and three each way at Providence. New round trip rate between New York and Boston is \$21.50, as compared with the old rate of \$25. One way tickets are \$11.95 instead of \$13.90.

PCA Promotes 3

Promotions for three executives of Pennsylvania-Central Airlines were announced following the quarterly meeting of the board of directors held in Pittsburgh July 15. Frederick R. Crawford, formerly vice-president and secretary, is now executive vice-president and secretary. L. P. Arnold, formerly assistant to the president, has been elected a vice-president, and J. J. O'Donovan, formerly general traffic manager, is now vice-president in charge of traffic.

Pan Am Uses Boeing Grads

Oakland, Calif., July 14—Approximately 40 men trained by the Boeing School of Aeronautics are now employed by Pan American Airways. John Yates, E. O. Eastwood, and Walter Houghton, recent graduates, have just joined the company at Alameda. Yates and Eastwood are working as mechanics, while Houghton is engaged in meteorology.

Canada Imitates



Trans-Canada Air Lines has decided to use stewardesses on their planes when passenger service is inaugurated sometime next spring. And in so doing, the Canadians are using United Air Lines as a model. Above is Miss Lucile Garner (left), first Trans-Canada stewardess, learning about this intricate business of stewardessing from Miss Vera Smith of UAL at Boeing Field, Seattle. Miss Garner is flying United's Seattle-Vancouver trips to observe the manner in which passengers are made comfortable aloft. Requirements by Trans-Canada will be the same as in this country. Miss Garner is from Regina, Sask.

MACKENZIE ADDS PLANES

Three Pilots Hired and Four Ships More Will Improve Service

Edmonton, July 16—Mackenzie Air Service is hiring three new pilots and will put four more planes into service by September, W. Leigh Brintnell, president of the company, announced yesterday. Total pilot staff now numbers 12. Three of the four planes are being added immediately. A Fairchild 82 has been leased from Starratt Airways, Hudson, Ont. Another Norseman plane will be placed in service by Aug. 1, after undergoing overhaul here, and a Fairchild 71, recently reconditioned, will be taken to Cooking Lake seaplane base shortly. The fourth plane, a new 15-place Bellanca, will be ferried from the Bellanca factory, New Castle, Del., in the fall. New pilots are Ken Smith (for the summer only), of Starratt Airways; Tom Mahon of Sault Ste. Marie, and Mickey Found.

Open PCA's Soo Line

Formal ceremonies at each of the five stops on Penn Central's Detroit-Flint-Sault Ste. Marie airline marked official opening of the line July 20. The official list of participants included the names of C. Bedell Monro, PCA president; L. P. Arnold, vice-president; J. J. O'Donovan, vice-president—traffic; J. H. Neale, director of flight engineering; R. O. Smith, superintendent of radio communication; L. A. Harris, superintendent of maintenance; James Adler, PCA director; Charles P. Graddick, superintendent of air mail, Post Office Department, Washington; S. B. Steers, assistant state director of aeronautics; and J. B. Lenkert of the aviation division of Gulf Oil Co. Neale and J. H. Carmichael, director of flying for PCA, were pilots of the two Boeing 247Ds. After the Saginaw and Traverse City programs, the party moved to the Soo, where President Monro was inducted into the Ojibway Indian tribe as Chief Ne-No-Si, or "Big Flying Bird." Regular schedules will open July 28.

"Howdy Partner" Letters

Charles E. Beard, vice-president of Braniff Airways, has launched a series of "Howdy Partner" promotion letters to prospective passengers and air express customers over the country. Run off on a machine by special process, the letters look as though they had been personally written with a soft black pencil and are merely signed "C. B.". The first two of these effective "chats by mail" have featured Texas business prosperity and the first one was accompanied by a Brookmire income map showing Texas as one of the few bright business spots in the country. "Cash registers are banging away merrily—bank deposits are cluttering up the tellers' cages—oil is gushing—cotton's blooming in the north and being picked in the south—cattle are getting fat and heavy headed wheat is rolling into the granaries" is a quotation from one of the letters. Beard is telling the prospects that business is easiest to get where business is best and plugging Braniff as the proper transportation medium for the "prosperity belt".

WAE Stresses Fishing

Los Angeles, July 20—A one-day fishing tour to Yellowstone Park is a new feature offered coast residents by Western Air Express. A fisherman may now fly from Los Angeles to Yellowstone, where he is driven to Hebgen Lake and Madison River. All equipment is furnished, including tackle, bait, motor boat and guide. Afterward, the sportsman is returned to the West Yellowstone Airport, where he boards a plane for Los Angeles—all in 24 hours.

TWA Boys in Action



Jack Frye, president of TWA, is telling a newsman across the table about the fish he caught at Boulder City, while immediately back of Frye is John B. Walker, vice-president in charge of traffic, telling other newsmen how he caught a still bigger fish. Incidental conversation had to do with the Boeing 307s which TWA will have in service later on.

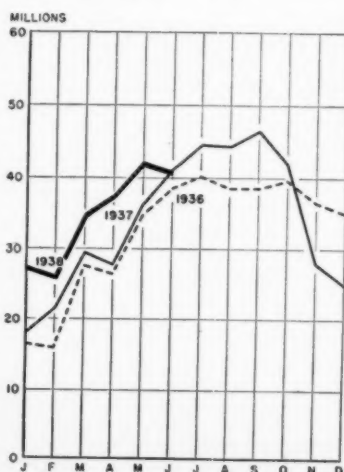
TWA Ranch Party

TWA is planning a ranch party to be held Sept. 9-10-11 at three ranches near Albuquerque, N. M., the Forked Lightning, the Valley and the Brush ranches, ending with a banquet Sept. 10 with Governor Clyde Tingley as host. Cost of the party will be \$70 each plus transportation and each guest will be made a Los Conquistadore which is the New Mexico version of the Kentucky Colonel. A selected list of aviation, public and civic officials will be invited.

United Adds to Shop Force

Cheyenne, Wyo., July 12—W. P. Hoare, superintendent of overhaul and repair for United Air Lines, has announced that 25 employees have been added to the company's shop personnel here since May 1, bringing the total number of workers to 470. Other departments here, including accounting offices, central division headquarters staff, and pilots, are also carrying full personnel, Hoare stated.

REVENUE PASSENGER MILES FLOWN



June, 1938: 42,100,250
June, 1937: 41,184,848

PAA Boeing to S. A.

Pan American Airways will send one of its first Boeing 307 33-passenger transports to South America for the Buenos Aires-Rio de Janeiro run to provide effective answer to the ever-increasing competition by German and French airlines now operating between those points.

Marie Sullivan to BBD & O

New York—Miss Marie Sullivan, until May 1 head of the women's department of Eastern Air Lines, is now connected with publicity and new business department of Batten, Barton, Durstine & Osborn, large New York advertising firm, and not with another advertising company as previously announced.

Personnel

MRS. MUSA BRODIE has been named downtown ticket agent for Northwest Airlines in Yakima, Wash., according to W. S. Burton, Yakima manager.

CHARLES MAYNARD, graduate of the airline pilot course at Boeing School of Aeronautics, is now employed as second pilot for Boston-Maine Airways. ROGER FLYNN also is employed by Boston-Maine in traffic work.

JACK RYNO, UAL dispatcher at Boeing Field, Seattle, dispatched his 12,000th scheduled flight recently. He has served 8 years.

GEORGE E. HURD, JR., of Great Falls, Mont., who graduated from the University of Minnesota in June, is joining Pan American Airways at Alameda, Cal.

MISS ESTHER WRIGHT has been added to the accounting staff of Inland Air Lines at the Casper office, and

R. M. VAN TUYL, United Air Lines pilot formerly stationed at Chicago, has been transferred to Cheyenne, Wyo., while Pilot L. C. PEYTON, located at Cheyenne, has been moved to Denver.

Directory of U. S. and Canadian Airlines

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Published in pocket-size handbook

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NOTE: There have been numerous corrections and additions since publication of the directory in the June 1 issue. For accuracy and completeness, order the pocket-size handbook.

TRAFFIC

Revise IAL Schedule

Cheyenne, Wyo., July 12—Inland Air Lines' schedules of planes to and from Great Falls, Billings, Mont., and Huron, S. D., are now arranged to make connections here with United Air Lines' transcontinental and Denver trips. Inland's trip 4 to Huron leaves Cheyenne daily at 9:15 a.m., reaching Huron at 2:40 p.m. On the return trip, it leaves Huron at 3:00 p.m., arriving here at 6:30 p.m.

Saratoga Planes

E. K. Smith of the Airlines Ticket Agency, 41 East 47th St., New York, announces a new daily plane service has opened between New York and Saratoga, to continue during the racing season. There is no charge for the airport car which leaves the agency at noon. Arrival in New York is about 7:15 P. M.

Dudes Go West—By TWA

Pamphlets describing accommodations available at approximately 30 dude ranches in the southwest have been printed by TWA and are available at the line's traffic offices and travel bureaus. Ranch vacations are becoming increasingly popular, according to John B. Walker, vice-president of the company.

More Marquette Flights?

Marquette Airlines soon is expected to announce flights daily except Sunday between Detroit and Cincinnati by way of Dayton.

The Maintenance Boys Go into a Huddle



Regular weekly meetings of the chiefs of the American Airlines Maintenance crew at Glendale, Calif., are held by Ray Miller, supervisor, to discuss problems of the crews, new developments in equipment and other subjects. This crew has had an excellent record. Left to right, they are A. P. Goebel, inspector; C. M. Palmer, crew chief; C. A. Silver, crew chief; O. H. Janzow, crew chief; Ray Miller, maintenance supervisor; O. L. Koppa, maintenance office; E. R. Hines, chief mechanic; G. M. Green, maintenance office.

Open Capital Resort Service

A summer week-end plane service between Washington, D. C., and Rehoboth Beach, Del., was opened at the capital's College Park Airport July 16. Planes will make round trip flights Friday through Monday, each week, to accommodate a small colony of Washingtonians who are making their summer residence at the resort.

American Serves Babies

American Airlines, catering to a growing number of baby passengers, has instructed its commissary department to stock up on strained fruits, vegetable juices and other special foods. Stewardess kits also carry a larger stock of "soft, disposable and very essential undergarments" for the small passengers.

Canadian Colonial Moves

Offices of Canadian Colonial Airways, Inc., have been moved from the Administration Building at Newark Airport to room 901 at 630 5th Avenue, New York City.

Appoint Saginaw Manager

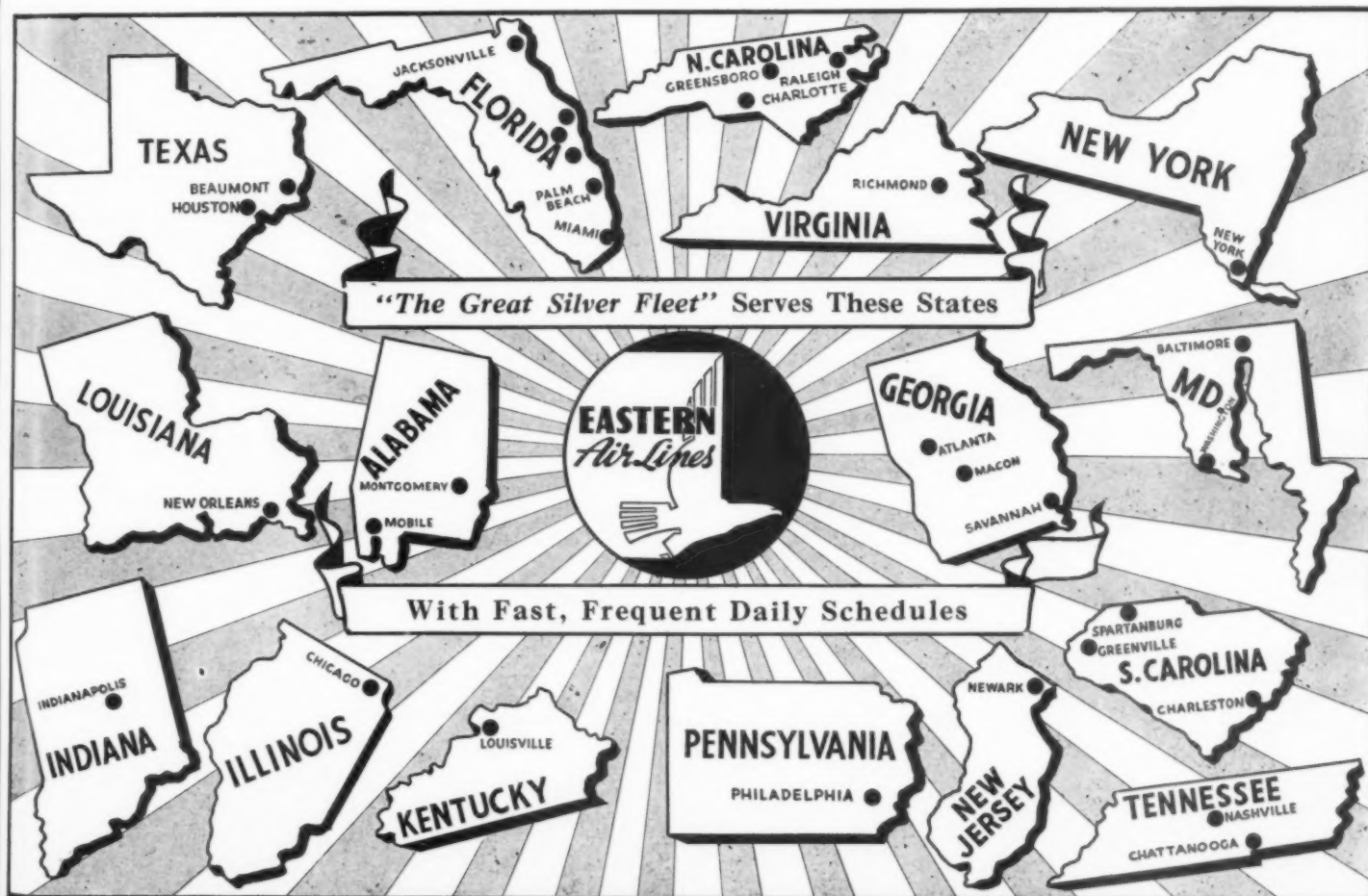
Saginaw, Mich., July 16—Edgar C. Penny has been appointed Saginaw station manager by Penn-Central Airlines, being transferred from Grand Rapids. He joined PCA three years ago at Pittsburgh as radio operator and later was named station manager at Williamsport, Pa. Changes to be made soon here include an addition to the hangar to accommodate a 247D, and construction of a waiting room and ticket office. New runways will be laid.

Limousine Rates Cut

Following announcement of half fare rates for children between the age of 2 and 12, Eastern Air Lines reports that similar reductions are in effect on ground transportation limousine service between Newark airport and New York.

Uniforms for Canadian Pilots

Edmonton, July 17—After Grant McConachie, president of United Air Transport, returned from the United States after a study of American airline operation, he ordered uniforms for all pilots on his line. Blue uniforms with brass buttons, gold stripes, and slouch caps now replace slacks, open shirts and windbreakers, and the pioneer northland is impressed.



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The Independent Voice of American Aeronautics

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FORTNIGHTLY REVIEW

(Continued from page 1)

weld carefully its framework and extra fuel tank installation. He had the intelligence and expert ability to put together—and time perfectly—a good engine that would give adequate power to propel and control his light airplane without too heavy a gasoline consumption. He had the fundamental instruments essential to know that his plane was right side up, an extra compass for double check on direction and a good watch to time his progress for compass guidance along the great circle course.

He didn't fuss about weather reports because he knew the general trend of high and low pressure areas from west to east, which meant that nine chances out of ten the weather between New York and Montreal during the 48 hours before his Floyd Bennett Airport take-off was about the same weather he would encounter on that half of his course that lay between Newfoundland and Ireland. He probably picked the month of July as a time of year when icing conditions in the atmosphere were less likely to be encountered.

The "C" in Corrigan probably stands for *Courage* and any lone flyer between Newfoundland and Ireland needs a reserve supply of that as well as personal confidence. The two great unknowns over that stretch of water are ice and wind. Lindbergh gambled with both, encountered some ice and maneuvered the "Spirit of St. Louis" until he found warmer air in time to avoid disaster. Corrigan was betting that he could do the same. An excessively strong headwind could have caused Corrigan to run out of fuel before reaching Ireland and an excessive wind drift to one side could have thrown him far off his course, both of which could have led to a termination of the flight at sea. (On scheduled airlines the directional radio beam with occasional fan markers help pilots keep on course, but there is no such aid across the North Atlantic.)

The 28 hours and 13 minutes of steady non-stop single-handed flying that took Corrigan from New York to Dublin wasn't "crazy" if it was the thing he wanted most to do as a private flyer. If governmental officials think that's a "crazy stunt," let government assume leadership in the encouragement of youth to aim at more worthy flight objectives. Don't just tell a flyer what he can't do; tell him what he can do! Encourage him to do something that he would like to do.

Youth is going to fly somewhere. We propose to do our own share in future months to encourage private flights on this continent that will provide the rest of courage, endurance and skill that youth craves. Make it easy to fly and *See America First!* We don't recommend long overwater private flights. Victory over water is sweet, but the stakes are far too high.

Department of Bright Suggestions

HAVING flown some 10,000 miles during the past month on nine scheduled airlines, we couldn't help but draw some conclusions about air transportation in general. For one thing, we strongly urge the members of the CAA to take time off in the very near future to get a taste of 1938 airline service. They should fly non-stop New York to Chicago. They should fly on a transcontinental sleeper schedule. They should fly on some of the smaller lines. They should partake of the wonderfully improved meals. Some of the CAA members haven't flown for several years. One of them, frankly, didn't know there were three transcontinental sleeper services. It is possible that not one has been on a New York-Chicago non-stop.

Our first sleeper trip was experienced only a few weeks ago, courtesy

of United, and it proved to be a surprise. We don't like Pullman sleepers but we can go for the airline berths. Air travel has improved so immeasurably during the past two years that it would be well for the CAA heads to rid themselves of any preconceived notions and get a taste of 1938. We've been riding the airlines for years but the sleeper trip gave us a mental jolt. It shows that one can be writing about airlines day after day without realizing their progress.

And while we are making this little suggestion to the CAA, we can make another one to the airlines themselves. We have found that traffic men can easily become provincial in their viewpoints unless they move about. This goes for airline publicity men also. By provincial we don't mean the "sticks," for one can become just as provincial (if not more so) in a large city such as New York or Chicago than in a small community. Every airline president should see that his head traffic and publicity men travel on other lines at regular intervals. Send them out on a one or two week tour and don't let them ride on their own line except as a connecting carrier. If the men are located in one section of the country, send them to the opposite corner. Let them find out what the other fellow is doing. We have a suspicion that some airline men have been in their one routine job so long that they believe they have the only airline in the country and that there is no near rival. A trip over the airways will knock that smug idea out in a short time. Seeing is believing. Every traffic executive and every publicity man should travel on other lines at least once a year. Some of the boys would be surprised at what they would find out.

Poetry to Our Liking

WE LIKED a little bit of verse which appeared in the *Oregon Journal* of July 19 anent Mr. Corrigan. It's entitled "Erin Go Brath":

Corrigan landed in Dublin—
Right over the sea like a gull again!
The Air Commerce Bureau is bubblin'
For Corrigan landed in Dublin—
His papers they'll not be troublin'
(The chief is named Denis P. Mulligan)
Corrigan landed in Dublin—
Right over the sea like a gull again!

H.S.G.

Thanks Mr. Mulligan

WOULD that the Bureau of Air Commerce had had as its director years ago a man with the sense of humor of Denis Mulligan. Our admiration for the able Irishman has been rising steadily since last April when he took over the directorship. But it reached an all-time high when his first comment on learning that Douglas Corrigan had landed in Ireland was, "It's a great day for the Irish." It is unfortunate that we had to wait until the Bureau has all but passed into history before one priceless gem was allowed to slip out from this government agency where a good healthy laugh and a sense of the goodness and freedom of living has been sacrilege.

What Others Say

Fifty-one years ago the Interstate Commerce Act was passed over the earnest but ineffective protest of railroad managers, who saw in it a piece of legislation that spelled disaster for the industry, and with a general chorus of popular approval mixed with hearty vituperation of those gentlemen for their misdeeds in the matter of rebates, discriminations, rate-cutting and so forth. In those days railroad-baiting was a form of indoor sport as popular with the politician as bridge is today with suburban women's clubs. As a matter of fact, the law itself as first passed was as toothless as a week-old baby, but there was abundant commotion at its birth. It grew up as the years passed by and at every stage of its growth the railroad industry kicked helplessly against the pricks. It may be merely a coincidence rather than the result of a causal sequence that half a century of railroad regulation finds the industry at the end of it in a state of general insolvency, but whichever it is the fact is undeniable.

In sharp contrast to all this is the phenomenon presented by the aviation industry in relation with the public and the law. Last month the Civil Aeronautics Act of 1938 became law with the general approval of all concerned—public, Congress and the industry itself. The law was born fullgrown, with a full set of teeth and luxuriant whiskers. It gives the Civil Aeronautics Authority full powers to regulate practically all phases of commercial aviation—rates, routes, quality of service, etc.—and, in form, is a nice blend between remedial and protective measures and those more closely suggestive of the police function.

The atmosphere in which it was passed was as fundamentally different as could be from that in which the Interstate Commerce Act was passed, in that the aviation industry was and is as popular today as the railroad industry was unpopular in 1887. This is a solid basis for its belief that the new authority is likely to prove distinctly more of a "fostering guardian" than the Interstate Commerce Commission is felt by its wards to have been. Humanly speaking, it is easier to convert a guardian-psychology into a policeman-psychology than to accomplish the reverse, and the industry is fortunate in being able to start in the former atmosphere.

It is also fortunate in that it offers to the public no present spectacle of really

Pro, Con and Otherwise

Protest

Sacramento, Calif.
July 12, 1938

To the Editor:

Reference is made to a news clipping in the July 1st issue of your publication, page 15, headed "Mainliner Ban Still On."

In the interest of accuracy and to justify myself, I would like to correct the statements I am alleged to have made as printed in this clipping. I have no knowledge of your news source in this instance, but please let me definitely state to you that I did not at any time issue a statement to the press or to anyone else either "bombastically" or otherwise to the effect that the Bureau of Air Commerce had been stalling, or was being influenced by the pilots in the restoration of mainliner service to Sacramento.

In my statement to the press on that occasion, which was incidentally solicited by their correspondent over the telephone, I made no reference whatever to any person or part of the Bureau of Air Commerce. Let me further state that I and the City Administration of Sacramento have at all times been heartily in accord and harmoniously in agreement with all of the decisions of the Bureau's Air Line Inspector regarding air line service in and out of Sacramento.

At the time this news item was written United Air Lines had announced to us and widely publicized the fact in the press that they were restoring mainliner service on daylight schedules only to Sacramento. This announcement followed a complete survey of the landing facilities and existing conditions by U.A.L. Division Superintendent and their Station Manager. The Airport Administration had previously informed United Air Line officials at Oakland and notified the Airline Inspector that we would give them the word when we considered the field complete and safe for mainliner operation. We estimated the date would be approximately August 1, 1938. This would not indicate that we had solicited a return of this business nor that I should consciously make such ridiculous accusations and statements to the press when I had previously stated that I would notify the interested parties when we considered the field safe for such operation.

My only statement to the press at that time was made to one local newspaper at their solicitation. In writing their story I was mildly misquoted; other publications in reprinting this news item have greatly exaggerated the misquotations, giving an entirely false meaning of the situation generally. The misquotations in the local paper were

bloated prosperity, and it is to be noted that the Aeronautics Act contains no provision limiting profits. It may be suggested, without cynicism, that in these matters what Oliver Herford once called "the short and simple flannels of the poor" are the best protection against the chill blasts of political disfavor.

Regulation, then, of commercial aeronautics starts under the best possible conditions, and in this respect it constitutes a welcome precedent in our economic life. It will be interesting to observe its career. Physically and metaphysically, it can perhaps be said of the industry that properly managed and wisely regulated it has the sky for its limits.—*Editorial in The Wall St. Journal, July 18, 1938.*

Shortly after the first and the middle of each month there comes across our desk an expected and well worth while publication, AMERICAN AVIATION magazine. Yes, we know it is out of line to plug a competitor, so to speak. But we just want to say this about Wayne Parrish and his year old magazine . . . both have it on the ball. There are few things we read from cover to cover each month, but AMERICAN AVIATION is one of those few things. The aviation industry should appreciate a publication like neighbor Parrish puts out. Power to his tribe.—*Keith Kahle, editor and publisher of Taxi-Strip Magazine, Oklahoma City.*

overlooked. Exaggerated as they appear to be in a national publication, they will obviously create misunderstanding between the local Bureau officials and myself.

Might I presume to ask for a correction of this in your publication.

DONALD B. SMITH, *Superintendent,*
Sacramento Municipal Airport.

No Joke

To the Editor:

I like a joke as well as anybody, but sometimes jokes are susceptible to misinterpretation. And, when I see how completely you misinterpreted, in your paragraph under CAVU in your issue of July 15, regarding Mr. Braniff's pleasantry concerning his free meal at the luncheon which we gave in his honor, I recognize that somebody else might misinterpret your own pleasantry about that occasion. So here's just a note to correct any mistaken impression that might have been gathered from your quip.

No hatchet was buried at the Braniff celebration; there was no hatchet to bury. There has been no strain "for well nigh four years." Tom Braniff, during that period and during almost the entire 37 years in which he has been in business in Oklahoma City, has been not merely a director of this Chamber of Commerce, but has been one of the organization's pillars of strength. He is and has been for many years our National Councillor representing this organization in the U. S. Chamber of Commerce; for many years he has headed or been a member of many of our other important committees. He is one of the most dependable contributors to the funds of this organization and one of the men to whom everyone turns for advice in any important decision; in short, he is and has been one of the most intimately important factors in the life of the Oklahoma City Chamber of Commerce.

More than that, his airline is one of the particular points of pride of this city and of this organization. Instead of any strain existing, this organization has cooperated with him again and again in promotion of the most intimate and important transactions in the development of his air business, and the success which he has achieved in this field has created a local pride which overshadows an already important business position which he occupies in Oklahoma City in other lines.

If, as is possible, you did acquire information which would make your remarks one of seriousness instead of jest, please be advised that such information was actually misinformation.

Stanley Draper,
Managing Director,
Oklahoma City Chamber
of Commerce.

Somewhere He Must Be Sayin'



Reg Manning in The Arizona Republic

The Times Optimistic

The president is to be complimented on his choice of commissioners to constitute the new Civil Aviation Authority—not because he named a Republican as chairman and another Republican as one of the members, but because their naming seems to indicate an Executive desire that the administration of aviation affairs shall be free from politics. It is true that men of the President's own party are in a majority on the five-man board, but no one of the five is primarily a politician. Even among bipartisan boards, of which there have been a number during this administration, this is almost the first time when "political considerations appear not to have been controlling factors in appointments. . . . It looks like a well-rounded, nonpolitical board and one under which civil aviation should fare well.

—*Los Angeles Times, July 9, 1938.*

Ticket Office a Teepee

When A. W. Stephenson, Western Air Express station manager at Salt Lake City, recently went to the newly opened airport of Glacier National Park at Browning, Mont., to see what could be done about erecting temporary quarters until the completion of the permanent station, Chief White Calf, Blackfeet Indian, offered his teepee. Stephenson accepted.

"It's a beautiful thing," Stephenson said. "It has a diameter of about 30 feet and is dressed up with skins of all kinds, fancy bead work and other decorations that appeal to an Indian. It is ample in size for a radio room and ticket office, as well as space for passengers. It provides a fine bit of 'atmosphere' for eastern tourists."

Unsolicited Comment

Best wishes for continued success which your magazine so rightfully deserves.—*Roger Q. Williams, Roger Q. Williams Aircraft Corp.*

In my opinion your publication covers the industry completely, and in addition, it presents views and articles not available elsewhere. Your company is to be complimented for doing the excellent job that is being done.—*G. T. Baker, President, National Airlines, Inc.*

I am a charter member of your publication and enthusiastically receive each and every issue. As far as I am concerned you have the only aviation publication and I have recommended it to many of my friends who are associated and interested in aviation.—*W. F. Peterson, Jr., Oklahoma City.*

We find your new publication to have great news value. It is easier to read than any of the others.—*George F. Kelly, American Airport Equipment Co., Chicago.*

Your magazine, AMERICAN AVIATION, certainly is to the point and well worth your subscription price.—*S. K. Sullivan, Jr., New York & Bermudian Air Line.*

Your magazine is doing an exceptionally fine job and any comments I have heard in connection with it have been of the best.—*J. S. Frost, Consolidated Aircraft Corp.*

"I am very much interested in the excellent job you are doing in keeping those of us who are really interested in the future of aviation fully informed in a most concise and fair minded way of the issues which mean so much to us."

R. P. Levering, *Condor Air Lines*

133,245 Free Passengers Cost Airlines \$3,885,933 During 1937

13.86% of All Travelers Rode on Passes, I.C.C. Reports Show; Civil Aeronautics Act Minimizes Non-Revenue Transportation

A total of 133,245 persons, or 13.86% of the entire number of passengers carried, were accorded free transportation by the domestic air mail contractors during 1937, according to statistics compiled from reports of the Interstate Commerce Commission. The Air Mail Act of 1934 required all carriers to furnish the I. C. C. twice a year with a full statement of all free transportation, tariff value thereof, name and address of donee, and a statement of the reason for furnishing such transportation.

Tariff value of the free rides totaled \$3,885,933.01 for the year, and in addition, 1,766 passengers, representing \$24,564.88, were carried at reduced fares. During 1936, the airlines carried 98,031 free passengers with a tariff value of \$2,851,549.80.

The 1937 "non-revenue" who rode a total of 68,128,549 miles, were divided as follows: officers and employees of reporting carriers, 69,501; members of families of officers and employees of reporting carriers, 24,632; officers and employees of other air transport carriers, 2,880; members of families of officers and employees of other carriers, 420; officials and employees of the federal government, 4,883; officials and employees of state or local governments, 1,200, and all other passengers, 29,729. "All other passengers" came under sales promotion, advertising, goodwill, publicity and miscellaneous.

Hanford Airlines was at the top of the list, carrying 23.56% of its total number of passengers without charge, while Inter-Island Airways, Ltd., was the most frugal, keeping its free transportation down to 1.42%.

Among the transcontinental operators, American Airlines was the lowest with 8.13%, followed by TWA with 15.27% and United, 17.88%. Pennsylvania-Central Airlines cut down on passes, especially during the last half of the year, and finished with 8.78%. Other airlines stood as follows: Delta Air Corp., 10.22%; Eastern Air Lines, 10.35%; Northwest Airlines, 11.37%; Boston-Maine Airways, 13.9%; Western Air Express (also operating National Parks Airways), 14.26%; Braniff Airways, 17.04%; National Airlines, 17.59%; Wyoming Air Service (now Inland Air Lines), 18.38%; Chicago and Southern, 19.92%; and Continental Air Lines (formerly Varney Air Transport), 22.85%.

The Department of Commerce headed the government agencies in free transportation, with 2,882 persons traveling 1,187,677 miles and representing a tariff value of \$68,451.93. A total of 1,412 Post Office employees, with a tariff value of \$34,694.04, traveled 595,212 miles. Transportation of officials and employees of the P. O. traveling on official business is required by the air mail contracts without additional charge.

Sixty-two members of Congress traveled free during the year, 30 riding on TWA, 15 on American, seven on United, three on Inter-Island, two each on Boston-Maine, Eastern and Northwest, and one on Delta. They covered 56,641 miles.

Most airlines carried more free passengers during the last six months of 1937 than in the first half, despite the introduction of the service charge, which was designed to cover meals

aloft and other incidental expenses. Statistics covering the first six months of 1938 are not available. It is not known whether the I. C. C. will issue these figures, in view of the fact that the Civil Aeronautics Authority will take over all aviation matters shortly.

The Civil Aeronautics Act prohibits passes except for company directors, officials, employees, immediate families and in a few other cases. This will greatly reduce the number of free rides and bring additional much-needed revenue into the airlines' coffers.

PAA Pilots Want Commissions

San Antonio, Tex., July 17—Four reserve officers, pilots for Pan American Airways at Brownsville, have applied at Brooks Field for permission to be examined for regular commissions in the Army: Edward G. Kiehel, Leslie E. Martin, Noble O. Sprunger, and John L. Randall, all first lieutenants. All eight applicants at Hensley Field, near Dallas, were said to be flyers on commercial airlines.

UAL Transfers Personnel

United Air Lines has transferred E. V. Whallon, formerly Newark traffic manager, to the New York district traffic office, and has moved Harold Swan from New York traffic office to the position vacated by Whallon. Edward Benz, formerly of the Chicago district traffic office, has been transferred to the Los Angeles district traffic office.

Imperial's News by Air

Imperial Airways sent a special edition of its *Weekly Air News Bulletin* to the U. S. on the composite craft, *Mercury*, with delivery to American aeronautical publications within 30 to 48 hours. A special note stated: "This is the first special edition of any publication ever carried across the North Atlantic by air and published for that specific purpose."

I. C. C.

Pending Air Mail Dockets

A.M.D. No. 1-16-18—Air Mail Commission. Examiner preparing report. A.M.D. Nos. 17-30-36—TWA. Hearing resumed on July 11.

A.M.D. No. 28—Eastern Air Lines base rate. Oral argument July 14.

A.M.D. No. 29—Continental Air Lines. petition for readjustment of rates. Briefs filed June 27. Examiner preparing proposed report.

A.M.D. No. 32—Hanford Airlines, petition for readjustment of rates. Proposed report issued July 7. To be submitted to Commission within 30 days. A.M.D. No. 35—Boston-Maine Airways, base rate mileage. Exceptions filed to proposed report June 22. Final report pending.

A.M.D. 38—Western Air Express, petition for readjustment of rates. Briefs filed July 6. Examiner preparing proposed report.

A.M.D. No. 40—Varney Air Lines, rate review. Briefs filed June 27. Examiner preparing report.

A.M.D. No. 41—Continental Air Lines. investigation of rates. Briefs filed June 27. Examiner preparing report.

A.M.D. No. 42—Northwest Airlines, rate review. Proposed report issued. Final report pending.

A.M.D. No. 43—Northwest Airlines, investigation of rates. No date set for hearing.

A.M.D. No. 47—Wyoming Air Service, petition for readjustment of rates. No date set for hearing.

150,000 Miles a Year!

United Air Lines believes it has a new candidate for the champion air traveler in Miss Joan Wing, who has standing reservations on United 52 weeks of the year for a flight each Tuesday afternoon from New York to Chicago and each Friday afternoon from Chicago to New York, or approximately 150,000 miles a year. In addition, Miss Wing adds an extra trip occasionally, and on a day "off" has flown as far west as Denver to keep a business appointment.

When she was a telephone operator in upstate New York, Miss Wing learned that poor telephone conversation often can do irreparable damage to a firm, so she established the "Wing System" of courtesy, and now has built up a prosperous business teaching politeness to large corporation employees.

1,200 Cavalier Passengers

Imperial Airways' *Cavalier* carried 1,200 passengers in the first year of operation between New York and Hamilton, Bermuda, P. E. Bewshea, commercial manager at New York, announces. Of these, 761 were men and 439 women. Only six flights were canceled due to weather.

Fishing Club Winners

Eastern Air Lines' Flying Fishermen Club's competition for the 1937-38 season resulted in announcement of the following winners: Gustave J. Fuerth, of New York City, for tarpon; William B. Hurst, Jr., Baltimore, for marlin; Harry L. Gold, New York City, for sailfish. All have been awarded tickets for round trip passage on EAL between New York and Miami. Fuerth's tarpon, caught off Everglades, Fla., on Sept. 20, 1937, weighed 148-lbs. and was 7-ft. 2-in. long. Gold's sailfish weighed 77-lbs., 10-oz., and was 6-ft. 10-in. long. Hurst's marlin, caught near Bimini, Bahamas, on Jan. 9, weighed 448-lbs., and measured 11-ft. 8-in. To be eligible, members of the club must fly to or from Florida on EAL, and catch a tarpon, marlin, sailfish, or bonefish "legitimately and ethically"—with rod and reel. Members are sent membership certificates signed by Capt. E. V. Rickenbacker, EAL president.

Manager Is Vice Consul

Robert O. Bullwinkel, district traffic manager for Pan American Airways at Seattle, has been appointed vice consul in Seattle for Brazil. He was appointed by the Brazilian ambassador to this country and was accepted by the Department of State.

I. C. C. Examiner Recommends Higher Rate, Increased Base for Hanford

\$295,409.68, resulting in a net loss from operations of \$68,902.60.

"The reasonableness of rates for the transportation of mail by airplane must be determined with relation to the service actually performed," Hechmer stated in his conclusion. "The service which petitioner is now rendering on route 26 has changed materially from that considered by the Commission when the rate of 32¢ was fixed. Passenger service is required by the Postmaster General and that requirement compels the acquisition and operation of equipment superior to that which would be required if the mail were flown without passengers."

"The equipment which petitioner is now operating is adapted to meet the reasonable requirements of the route. Increased expenses have necessarily followed the extension to Tulsa, the improvements in facilities, and the higher standards of safety and efficiency of both equipment and personnel which have not been met by increased revenue. . . . Continued operating losses make it increasingly difficult for petitioner to finance necessary improvements. The air transport industry is one in which the highest possible standards of safety must be maintained."

At the time the initial rate was fixed, the base mileage of 50,000 miles a month was substantially the monthly equivalent of one round trip daily. However, due to the granting of extensions, one round trip a day equals 67,768 miles a month over the extended route, and additional mail-passenger schedules make the total monthly mileage over the present route 95,297 miles. Since this exceeds 190% of the base, Hanford's rate would be decreased 1¢ for every 10% increase in mileage. By increasing the base mileage, however, this ruling does not apply.

Cost of operation has increased, Hanford states, because of higher depreciation and insurance charges due to the acquisition of modern and more expensive equipment. Personnel costs have also increased due to the addition of more employees and higher salaries and wages.

Hanford's net loss for the fiscal year 1937 was \$106,660.22, and in the seven months ended Jan. 31, 1938, \$69,837.86, making a total deficit of \$176,498.08. On Jan. 31, 1938, its recorded investment in real property and equipment was \$263,122.56, less accrued depreciation of \$90,784.99, or a net book value of \$172,337.57. Current and accrued assets were \$97,476.28 and current and accrued liabilities, \$25,434.11. Operating reserves aggregated \$9,580.99.

Operating revenues for the fiscal year 1937 were \$308,310.68, consisting of mail, \$220,139.00; passenger, \$80,887.64; express and freight, \$3,409.81, and miscellaneous, \$3,894.23. Operating expenses for the same period totaled \$411,097.33 and taxes assignable to operations \$4,054.52, making a deficit from operations of \$106,841.17. For the seven-month period ended Jan. 31, 1938, revenues were \$226,507.08, made up of mail, \$165,112; passenger, \$55,952.82; express and freight, \$2,250.86; excess baggage, \$381.35, and miscellaneous services, \$2,610.05. Operating expenses were

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HANFORD AIRLINES

Navy's New Curtiss Scout Bomber



Curtiss Aeroplane Division of Curtiss-Wright Corp. at Buffalo is turning out a fleet of 58 Cyclone-powered Curtiss SBC-4 scout bombers, similar to this one, for the U. S. Navy. The planes will be a further development of the Curtiss SBC-3, 83 of which are now in use with Navy aircraft carriers. Principal difference between the SBC-3 and the SBC-4 is that the latter is powered with a 1,000-hp. single-row Wright Cyclone instead of a twin-row radial. (Official Photograph, U. S. Navy)

Idaho Falls' Unique Airport Buildings



Idaho Falls has proved that hangars need not be built of steel and concrete. Top photo shows its municipal hangar constructed of hand-peeled white pine logs secured from the Island Park country as a WPA project. Alvin Adams and Thomas Wolfe, president and vice-president respectively of Western Air Express, recently inspected the hangar and termed it unique. Photo is published through the courtesy of the Salt Lake City Tribune. Lower photo shows the administration building, also built of hand-peeled logs. It has offices, a radio station and waiting rooms. The structures required two years to build. Lower photo courtesy of WPA.

HERBERT BRIDGES has been promoted to operator in charge of the BAC Airways communication station at Plymouth, Utah. He has been located at Buffalo, Nev., for the last six months.

K.I.M. Royal Dutch Air Lines and K.N.I.L.M. Royal Netherlands Indies Airways have named their new line to Australia the Intercontinental Airways. The companies are operating the route in partnership.

BAC Project Decisions

The Bureau of Air Commerce has acted upon the following airport and airmarking projects, which are being prepared for submission to the WPA for inclusion in its program:

CHARLESTON, S. C. (Seaplane Base): Approval, supplemental project, for \$70,879 federal funds for additional labor to carry on development of base.

MOLINE, ILL.: Approval of a superseding project for \$252,008 federal funds for completing development of the airport as previously planned and carried on under a former project.

BLACK MOSHANNON, PA. (Rush Township): Approval of a superseding project for \$25,312 federal funds for construction of a road to the airport.

HEMPSTEAD, N. Y. (Mitchel Field): Jurisdiction waived in case of a project sponsored by the Army calling for \$344,105 federal funds.

KANSAS CITY, KAN.: (Approval of new project for \$15,369, federal funds, for improvements on U. S. Army Reserve facilities, Fairfax Airport.

KANSAS CITY, MO.: Approval, new project, for \$676,199 federal funds for construction of concrete runways and field grading.

WINSTON-SALEM, N. C.: Approval of project for \$96,574, federal funds, for further development of airport.

HURON, S. D.: Approval of project for \$108,704, federal funds, for lengthening and improving runways by grading, placing gravel base, bituminous mat, lighting field, fence additions to field, and constructing addition to administration building.

SOMERSET TOWNSHIP, PA.: Approval of new project of \$238,349 in federal funds for complete construction of an airport at Somerset.

POCATELLO, IDAHO: Approval of superseding project for \$74,125 federal funds for grading, draining and surfacing runways and taxi-strips and area between with oil or gravel. New concrete or rock asphalt turnarounds and aprons. Well for water supply an new water line; new pump house and pump. Reconstruction and extension of boundary light circuits; new obstruction lights. Remodeling of administration building into caretaker's residence. Landscaping.

POCATELLO, IDAHO: Approval of superseding project for \$28,330 federal funds for completion of shop and hangar building at University of Idaho, Southern Branch.

TYLER, TEX.: Approval of new project for \$188,880, federal funds, for extending, grading, graveling and sodding runways, rearranging boundary lights and installing additional boundary lights and floodlights, and incidental work.

FLORENCE, S. C.: Conditional approval of superseding project for \$91,896 federal funds, for runway grading, paving, drainage, sodding and new hangar.

GALVESTON, TEX.: Approval of superseding project for \$5,709 federal funds for additional improvement of Galveston Airport by excavation and grading, extension of NW-SE runway by grading and shell runway construction, boundary fence and boundary light relocation, and incidental work.

NEWARK, N. J.: Conditional approval, new project for \$417,727 federal funds, for airport improvements.

WINNEMUCCA, NEV.: Conditional approval, new project, for \$52,520 federal funds for clearing, grading, runway construction, and drainage ditch.

WEST LAFAYETTE, IND. (Purdue University): Conditional approval of superseding project for \$52,968 federal funds for continuation of construction of three runways, two taxi-strips, together with necessary grading; installation of power circuit in hangar, etc.

MUSKEGON, MICH.: Conditional approval for new project for \$80,715 federal funds.

NASHVILLE, TENN.: Conditional approval for new project for \$57,695, for construction of additional hangar.

BISMARCK, N. D.: Conditional approval of new project for \$36,770 federal funds for construction of hangar and concrete aprons on runway ends, and landscaping.

SUPERIOR, WIS.: Conditional approval of new project for \$67,407 federal funds, for runway surfacing, seeding, grading, fencing and field lighting.

NASHVILLE, TENN.: Conditional approval of new project for \$7,047 federal funds for new building to house U. S. Post Office station and weather bureau laboratory.

HAWAII: Conditional approval given superseding projects at Upolu, Hilo, Kahului, and Port Allen, for total of \$152,439 federal funds.

CLARKSBURG, W. VA.: Approval, supplemental project, \$24,662 federal funds, for new hangar, paved apron, taxi strip.

NEW CASTLE, PA.: Approval for supplemental project, for \$50,109 federal funds, for runway surfacing, clearing, grading.

NEW ORLEANS, LA.: (Shushan Airport): Approval for \$7,546 federal funds for lighting cable installation, relocation of boundary lights.

PONCA CITY, OKLA.: Approval, \$84,324 federal funds for field grading, runway paving, drainage installation, taxi-strip and hangar apron construction, revision in field lighting system.

MACKINAC ISLAND, MICH.: Approval, \$3,455 federal funds for further development of landing field, clearing, grading, grubbing.

ST. LOUIS, MO.: Approval, \$5,243 federal funds for new concrete sidewalk, addition to existing hangar and armory building to provide engineering shop, Air Corps supply room, engine shop, airplane and equipment maintenance shop, parachute section and fireproof storeroom.

OLYMPIA, WASH.: Approval, \$10,857 federal funds, for topping trees, grading and leveling, installing daytime markers and guard rails, painting landscaping, construction of transformer house.

Jurisdiction of the BAC was waived in the following projects sponsored by the military service of the federal government:

DENVER, COL.—\$517,991.
LAKEHURST, N. J.—\$180,000.
SUNNYVALE, CAL. (Moffett Field)—\$95,129.

WASHINGTON, D. C. (Old Bolling Field)—\$27,720.

WASHINGTON, D. C. (New Bolling Field)—\$67,220.

WASHINGTON, D. C. (Old and New Bolling)—\$26,250.

RIVERSIDE, CAL. (March Field)—\$114,209.

MONTGOMERY, ALA. (Maxwell Field)—\$6,569.

SAN RAFAEL, CAL. (Hamilton Field)—\$73,000.

KANSAS CITY, KAN. (Fairfax Airport)—\$50,038.

WRIGHTSTOWN, N. J. (Camp Dix)—\$82,508.

SAN ANTONIO, TEX. (Duncan Field)—\$56,493.

MIDDLETOWN, PA.—\$62,473.

FT. RINGGOLD, TEX.—\$4,991 (War).

PENSACOLA, FLA.—\$174,710 (Navy).

SAN ANTONIO, TEX.—\$45,153 (War).

MITCHEL FIELD—\$80,467 (War).

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Aeronautical Book Shelf—

ABOVE THE RAINBOW, by Anne Strawbridge. 196 pages. \$2.00. Published by Stackpole Sons, New York City.

This is the story of a girl's attempt to harmonize the two divergent elements in her personality. One force impels her to dangerous undertakings, while in the other role she is shy and sensitive. After becoming adept at mountain climbing, which offers partial peace, she learns to fly and her struggle ends.

The book is unusual in that the girl learns to fly and finally solos in an autogiro. This is due to the fact that Anne Strawbridge, the authoress, is an aviatrix and has a small autogiro of her own. Descriptions of the girl's thoughts and impressions while flying are interesting and unusual and add to the worth of the book.

AMERICAN WINGS by Captain Burr Leyson, with a foreword by Captain Eddie Rickenbacker. 214 pages. \$2.00. Lavishly illustrated with official photographs of Army, Navy, Coast Guard and commercial planes. E. P. Dutton & Co., Inc. New York City.

This book has been described as "an informal story of flying in the United States," an account of the history, experiences and achievements of aviation. It covers the training of a typical U. S. Army Air Corps cadet at Randolph Field, the advanced flying school at Kelly Field, military and civilian stunting, seaplanes, commercial aviation, the first mail flight, long distance flights, stratosphere experiments, private flying and other subjects.

One chapter deals with the airship, stating that "our attempts to operate dirigibles are a gruesome record of failure," but points out that such ships have been operated with safety by the Germans. Helium can make the operation of airships safe, Captain Leyson believes, but because of the U. S. monopoly and the reluctance to export the gas, "it is not available to the only people who still have confidence in their safety of operation—the Germans."

Looking to the future, Captain Leyson predicts the building of huge planes carrying hundreds of passengers, flying through the stratosphere at tremendous speed. "In the field of engines," he says, "1950 undoubtedly will see a return to the 'in line' engines rather than the huge radial engines we now are so familiar with in our planes. The 'in line' types will set into the structure of a flying wing much more easily than the radials and offer far less of a problem of cooling the cylinders. Liquid-cooled engines are returning in this era of the future and temperatures above the boiling point of water will make for more efficiency."

PRACTICAL AIR NAVIGATION AND THE USE OF THE AERONAUTICAL CHARTS OF THE U. S. COAST AND GEODETIC SURVEY, by Thoburn C. Lyon. 185 pages. 50¢. U. S. Government Printing Office, Washington, D. C.

This excellent book was first written by T. C. Lyon, assistant cartographic engineer of the U. S. Coast and Geodetic Survey, in 1935, but it has been out of print for several months. The present edition has been revised and considerably enlarged, containing chapters on chart reading, cross-country flying, air navigation by dead reckoning, radio navigation, celestial navigation, and meteorology. The extensive appendix includes several new graphs in addition to those appearing in the first edition. By their use, it is claimed,

many of the problems of air navigation can be solved by inspection.

Lyon has endeavored to write the book in clear, understandable form, and it should prove invaluable to pilots. The extremely low purchase price is made possible by publication at the Government Printing Office. A 33 1/3% discount is also allowed if the book is purchased in lots of 20 or more in one shipment to one address.

HISTORY OF AERONAUTICS: A Selected List of References to Material in the New York Public Library, compiled by William B. Gamble, Chief of the Science and Technology Division, 325 pages. Paper cover.

If there is a more recent and complete bibliography of aeronautics than this compilation, we have yet to see it. Works listed are in all languages. Each book, pamphlet, handbook or magazine article is reviewed in less than 30 words and is completely documented, the library's call number being included. The contents are arranged topically, and in the appendix are indexes of subjects and authors. Topics comprise these: Traditional and literary accounts, general works, heavier-than-air craft broken down into subsections for ornithopters, seaplanes, airplanes, gliders and gliding, parachutes, helicopters and autogiros, kites; engines, propellers, airplane flights, military aeronautics, World War, civil aeronautics, air mail, polar expeditions, associations and conferences, jurisprudence, aeronautics and science, photography and surveying, animal flight, women in aeronautics, miscellaneous.

AERONAUTIC LAWS AND AIRPORTS. Published by the Commissioner of Motor Vehicles, State of Vermont.

This 24-page pamphlet contains the complete aeronautic laws of Vermont and gives a descriptive guide and map of all airports in the state. By an act of 1937, the state set up an advisory committee on aeronautics to advise the motor vehicle department under which aviation is regulated. The act also provided for the appointment of a full-time inspector and examiner. On the advisory board are Porter Adams, president of Norwich University; F. W. Shepardson, of Burlington, and Walter Cleveland, of Montpelier. Raymond C. Thompson is inspector-examiner. Pilot licenses in Vermont cost \$5, although students are exempt. Copies of the handbook may be obtained from the Commissioner of Motor Vehicles, Montpelier, Vt.

NACA Reports

The National Advisory Committee for Aeronautics, Navy Building, Washington, D. C., has listed the following new technical reports, notes and memos which are available without charge. Quantities are limited.

T. R. 624: Two dimensional subsonic compressible flow past elliptic cylinders, by Carl Kaplan.

T. R. 625: A discussion of certain problems connected with the design of hulls of flying boats and the use of general test data, by Walter S. Diehl.

T. N. 652: Tables of stiffness and carry-over factor for structural members under axial load, by Eugene E. Lundquist and W. D. Kroll.

T. N. 653: A flight investigation of the reduction of alleron operating force by means of fixed tabs and differential linkage, with notes on linkage design, by H. A. Soule and James A. Hootman.

T. N. 654: Fuel consumptions of a carburetor engine at various speeds and torques, by Oscar W. Schey and J. Denny Clark.

T. N. 655: Principles involved in the cooling of a finned and baffled cylinder, by M. J. Brevoort.

Sikorsky's Poised for Delivery to Navy



These four Hornet-powered Sikorsky S-43 amphibians were photographed recently on the ramp at the Sikorsky factory in Bridgeport, Conn., before being delivered to the U. S. Navy as part of an order for 17 planes of this type. Deliveries have also been completed on a number of similar S-43s for the U. S. Army Air Corps.

NEW GHQ PROGRAM \$7,000,000 Construction Project At Scott Field Starts

Scott Field, Ill., July 13—Maj. W. T. Meyer, post adjutant, said 700 WPA workers today will start demolishing frame buildings which will be replaced by brick structures in a \$7,000,000 improvement and expansion program looking to eventual removal of the general headquarters of the U. S. Army Air Corps here from Langley Field, Va. An additional 800 workers will be added later. The \$65,000 dirigible mooring mast, erected in 1929 but never used for anything larger than a blimp, is also being razed. Field officials also said it is virtually certain that the War Department will tear down the \$250,000 dirigible hangar, which, like the mast, was never used for the purpose intended.

Invents Movable Ramp

A movable seaplane ramp said to cost about one tenth as much as stationary units, was demonstrated near Jersey City, N. J., recently by the inventor, Vito Marianno, ex-Navy flyer. The ramp, which is part of a boat 72-ft. by 30-ft., is itself 52-ft. long, and its front end can, by means of manual or motor operation, be submerged five feet. It lifted 10 tons out of the water during tests in less time than that required by present derrick systems.

AERO INSURANCE UNDERWRITERS has issued a valuable folder on "Weather Symbols and Insurance Hints" describing all the symbols used in teletype and radio transmission. It may be obtained by writing to the company at 59 John Street, New York City.

North American Head



J. H. Kindelberger, president of North American Aviation, Inc., shown as he reboarded a TWA skyscraper at Chicago Municipal Airport en route to Inglewood, Cal., on his return from Europe. The British government recently placed an order for 200 North American training planes. Before returning to the United States, Mr. Kindelberger inspected German aircraft factories. He was chief engineer of Douglas Aircraft Co. for nine years before becoming president of N.A.

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Britain Publishes Data On Liaison Ship



Great Britain has revealed performance data and specifications of its Westland Lysander army cooperation, two-seat monoplane, one of which is shown here demonstrating a slow landing, using automatic Handley Page slots and flaps. "Large deliveries" to the Royal Air Force squadrons have begun, it is said. The plane is designed to fulfill three main functions: reconnaissance, artillery observation and general liaison work.

The plane pictured has a Bristol Mercury XII 890-hp. engine, but other later models may be equipped with a Bristol Perseus XII.

Dimensions: Span, 50-ft.; length, 30-ft., 6-in.; height on ground, 11-ft., 3-in.; incidence, 2-deg.; dihedral, 3-deg.; wing area, 260-sq. ft.; undercarriage track, 9-ft.; empty weight is 4,065-lbs., and loaded, 5,920-lbs. (with 87-gals. fuel); wing loading is 23.1-lb. per sq. ft.

Performance with Mercury XII engine: Speed at sea-level, 206-mph.; at 5,000-ft., 220-mph.; at 10,000-ft., 229-mph.; at 15,000-ft., 223-mph.; at 20,000-ft., 212-mph. Slowest flying speed, engine on, is 55-mph. Rate of climb (fully loaded) is 1650-ft. a min. at sea-level; service ceiling is approximately 26,000-ft. Takeoff run, fully loaded, is 165 yards; landing run (with brakes) is 200 yards.

See United Factory



J. E. Babcock, of Lycoming Division of Aviation Corp., and E. H. Huff, of Stinson Aircraft Corp., shown recently in a visit to the United Aircraft factories.

City to Operate Port

Monterey, Cal., July 14—Monterey's city airport will be returned to municipal management as result of the city council's resolution rescinding award of an operating contract naming Charles Ryan and Al Norton as airport operators. No lease was signed, and both men are acting voluntarily. City Manager Bill Pardee said the action was taken at the request of United Air Lines, which will start using the airport July 16. UAL officials preferred to deal with the city, it was said. Ten more acres of land will be leased and runways will be extended.

British Out for Distance Record in "Geodetic" Planes

British military planes sometime this summer are expected to attempt a non-stop Egypt-Australia formation flight, about 8,000 miles, to surpass the world distance record of 6,305 miles set by a Soviet plane in 32 hours at an average ground speed of 135-mph. The Wellesley craft to be used are constructed on what the British term "geodetic" principles. "Instead of the usual internal framework of struts and other members, the geodetic airplane derives its strength from an external shell or basket-work of interlacing members, which are called 'geodetic' members because they follow geodetic lines about the surface of wings and fuselage," the Society of British Aircraft Constructors explains. The method was invented by B. N. Wallis, chief designer of the rigid airship R100. Useful load is augmented, and high aspect wings are made possible.

Tulsa Work Starts

Tulsa, Okla., July 16—Workmen started leveling 40 acres in the northwest part of Tulsa Municipal Airport today to provide extra and emergency landing space. The job is part of a \$13,482 WPA project. Charles W. Short, Jr., is the airport manager.

Delay Obstruction Clearance

Springfield, Mass., July 12—The park board has postponed action on removal of 20 trees and electric wires which would increase usable length of the airport runways here.

Army Waking Up

The Army Air Corps is realizing more and more that the present procurement system for aircraft is definitely outmoded. Invitations for four-engined bombers for 1939 fiscal year procurement brought no replies from manufacturers for simple reason that to develop the type of bomber desired (including tricycle landing gear) would have meant about \$1,500,000 expenditure by each entrant with no assurance that the Air Corps would buy a single plane. Feeling in the industry is that if the Army wants bombing development it will have either to give some assurance of orders or pay a substantial share of development cost and experimentation.

Cross Country and Coast Services Feasible

With Flying Boats, Consair Experts Say

Transcontinental as well as coastwise operation of seaplanes and flying boats is feasible, W. B. Wheatley, chief test pilot for Consolidated Aircraft Corp., reveals in a recently completed survey which shows that there are more than 400 lakes, rivers, and harbors of sufficient size to allow landings and take-offs by flying boats between the Atlantic and Pacific coasts south of 38 degrees north latitude—which is the approximate latitude of Wichita, Kan. All of the potential bases are well distributed, enhancing their value for emergency use.

"Even in the mountains where the cost of constructing an emergency field for land type craft would be prohibitive, nature has generously provided lakes suitable for flying boat landings," writes T. M. Hemphill, in *The Consolidator*, company house organ, which announces the survey. "Consequently, flying boats of the PBY type carrying 24 day passengers and capable of flying on either of their two engines, can negotiate cross-country routes with safety equal to or greater than that of our land transports."

"Aside from the natural cross-country landing areas, it seems remarkable that this country with its excellent harbors has practically no coastwise flying boat service."

The 1,300 mile coast line from New York to Miami "is ideal" for a one-stop daylight flight in a boat of the PBY type, Mr. Hemphill says. Cruising at 160-mph. the plane would leave New York at 8 a. m., arrive at Charleston, S. C., about four hours later for lunch, resuming flight about 1 p. m., with Miami arrival at about 5 p. m.

"With a flight of this type no elaborate dining facilities need be provided aboard the boat, thus more comfort and payload would be afforded. The coastwise flight could be partly over land and partly over sea, thus avoiding the monotony which sometimes makes overland journeys tiring. Flying boats are naturally highwing craft, so that vision downward is not obstructed."

"A nonstop night flight over this

To Tour Navy Bases

A transcontinental inspection tour of Naval air reserve and supply bases by a sub-committee of the House Naval affairs committee will begin Sept. 15. It was announced in Washington. The journey will be made in a Navy bomber and will require about two weeks. Rep. Norman R. Hamilton, of Virginia, will head the group. Other members of the committee are Rep. Maas, of Minnesota; Rep. O'Connor, of Rhode Island; Rep. Magnuson, of Washington; Rep. Mott, of Oregon; Rep. Scott, of California; Rep. Cole, of New York; Rep. Brewster, of Maine.

Leases H & H Airport

New Haven, Conn., July 11—John Hall of Woodmont has leased the old 75-acre H & H Airport for one year. It was announced today. Activities at the field will be devoted mostly to student instruction, flying passengers and charter trips. For the past year and a half, residents in the immediate vicinity of the field have considered asking for a zoning change because of the alleged low flying of pilots over nearby houses. The move was dropped, however, due to the retroactive clause in such an act, which permits any non-conforming use in existence before the law was effective.

same route is also ideally suited to the PBY type flying boat. It would probably be desirable to fly somewhat slower in order to make the flight begin at nightfall and terminate at dawn. For night flying the present marine navigational facilities, lightships, etc., would practically eliminate the need for additional ground navigating equipment."

Terminal facilities for flying boats need not be elaborate or costly, and in most cases terminals could be located near the down town areas of the cities, the writer adds.

"Undoubtedly many excellent routes exist where profitable operation would be possible. But above all, the ability of the flying boat to make use of nature's landing fields, gives it a high degree of flexibility. Its terminals can be moved with the seasons, if necessary, without the cost of building airports or dredging channels. It can follow the natural flow of trade, even over the land, and therefore should show a high operating profit."

Agree on Airport Price

Windsor, Ont., July 15—Walker Farms, Ltd., owner of Walker Airport, has accepted the city's offer of \$125 an acre. Until two days ago the company had demanded \$175 an acre for more than 400 acres needed for the city's new airport, eventually to be used by Trans-Canada Air Lines.

889 Acres for Port

Moncton, New Brunswick, July 13—The Moncton city council has authorized transferring title to 889 acres of land in the Lakeburn district to the federal department of transport for an airport.



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* United's arrow-straight, mid-continent route is by ten years the oldest airway between the Atlantic and Pacific. It follows the Overland Trail to California, the old Oregon Trail to the Pacific Northwest.

* Selected by the Post Office Department in 1919 as most suitable for a cross-country air route, the Main Line was first to be lighted for night flying... first to have radio range facilities. Over this pioneer airway United now offers the finest in sleeper and day plane service. Only United links the East to all major Pacific Coast cities.

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The Main Line Airway

A YEAR 'ROUND ROUTE

NWA Crash Caused by Stall; Lack of Emergency Power, BAC Reports

A stall at low altitude following take-off, from which the pilot was unable to recover due to lack of emergency power, was given by a Bureau of Air Commerce accident investigation board as the probable cause of the Northwest Airlines crash at Billings, Mont., on July 8, resulting in the death of one of the eight passengers aboard.

Emergency power, the BAC said, was not available to the pilot because of improper adjustment of a stop which had been placed on the quadrant of the propeller pitch control levers, preventing the levers from going to the full low pitch position. The board conducted tests with a Lockheed 14 similar to the one which crashed and found that it was also equipped with a stop. After readjustment of the stop, permitting full forward movement of the propeller pitch control lever, tests showed full maximum

rated horsepower could be obtained.

The records of the company failed to disclose that this limiting stop had been installed on the plane which crashed, or that a flight test had been conducted to determine whether or not full maximum rated horsepower could be obtained after the stop had been installed.

The BAC board also stated that the plane was taken off the ground before it had traveled a normal distance for take-off, at the altitude of the Billings Airport, with the load carried, and that it left the ground in a stalled condition. The pilot attempted to recover by use of full emergency power while within the boundaries of the airport. The plane took off after running approximately 1,162 ft. down a 4,250 ft. runway. Gross Weight was 15,810 lbs. Pilot of the plane was Walter R. Bullock, with Lester H. Doan as co-pilot.

BAC Board States TWA Crash Caused by Wind Change Which Confused Pilot

A sudden change in wind direction and a sharp increase in velocity, unknown to the pilot, together with the pilot's confusion as to his position with reference to the Fresno, Calif., radio range station, was given by a Bureau of Air Commerce accident investigation board as the probable cause of the crash of a TWA DC-2 Mar. 1 on Buena Vista Crest, near Wawona, Calif., resulting in the loss of eight lives. Wreckage was not located until June 12. John D. Graves was first pilot of the transport, with Clyde W. Wallace as second pilot and Martha Mae Wilson as hostess.

The plane was en route from San Francisco to Burbank, nonstop, but after proceeding as far as Bakersfield, the pilot decided to return and land at Fresno because of icing conditions. A U. S. Weather Bureau forecast, issued after the plane had departed from San Francisco, and stating that a severe storm was moving eastward with strong to gale force southerly winds shifting to southwesterly, was not submitted to the pilot.

Consequently, in returning to Fresno, Graves based his flight plan on a 35-mph. south wind, whereas it was probably nearer 75-mph. southwest, according to meteorologists. This resulted in the pilot intersecting the northeast instead of the southeast leg of the Fresno range, which brought the flight over mountainous terrain, causing the crash. The accident occurred at an altitude of 9,712-ft.

The dispatcher at San Francisco testified before the BAC accident investigation board that information contained in the Weather Bureau forecast was not transmitted to the pilot for the reason that, in his opinion, the forecast indicated wind velocities would not change materially until after the flight was completed. The BAC board was of the opinion that this report should have been made known to Pilot Graves.

BAC Studies Diesel

The Bureau of Air Commerce is studying the Youngquist birotary, 2-cycle Diesel engine, recently forwarded by the inventor for consideration.

Appoint Medical Assistant

Dr. William R. Stovall, Fort Worth, Tex., has been appointed assistant to the chief of the medical section of the Bureau of Air Commerce in Washington. He is graduate of Baylor Medical School, Dallas. He was formerly assistant district surgeon at Fort Worth for the CCC.

More BAC Research

The Bureau of Air Commerce announces the following medical research contracts:

With Dartmouth College for a program to determine percentage of subjects in which anisokonia occurs, to what degree it exists, and its relation to pilot fatigue.

With Harvard Fatigue Laboratory, Harvard University, which will develop methods of measurement for delineation of personality types, with particular reference to the individual's susceptibility to anoxia, emotional stability and proximity to major and minor psychotic breakdown.

With the Johnson Foundation, University of Pennsylvania, which will study and develop biophysical methods for measuring vascular signs of physical strain and emotional states and electrical methods for study of variations in properties of the nervous system in relation to fluctuations in blood chemistry.

Safety & Planning

Flight tests have been conducted and reported by the Bureau on the following equipment:

Recently developed horizontally polarized trombone antenna, operating on 125 megacycles. "All courses were approximately 0.7 of one degree wide, and in general the operation was a considerable improvement over vertically polarized waves."

Radio compass, purchased from Bendix Corp. "Tests proved to be very successful. Extremely stable visual operation on both loop and TL ranges."

New 63 megacycle, four-course radio range, using vertical polarization at Pittsburgh, Pa., at distances up to 80 miles at 5,000-ft. "All four courses were approximately 2 degrees wide and were essentially free of multiple courses."

Airways Operation

Simultaneous operation has been inaugurated at the scheduled broadcast station at Elizabeth, N. J., permitting continuous transmission of radio range signals during voice broadcasts.

Teletype service has been opened at Pittsfield, Mass., on the Newark-Boston-Buffalo-Cleveland long lines teletype circuit.

Arrangements have been made for the examination of airport control tower operators at Grand Central Air Terminal, Glendale, Calif.

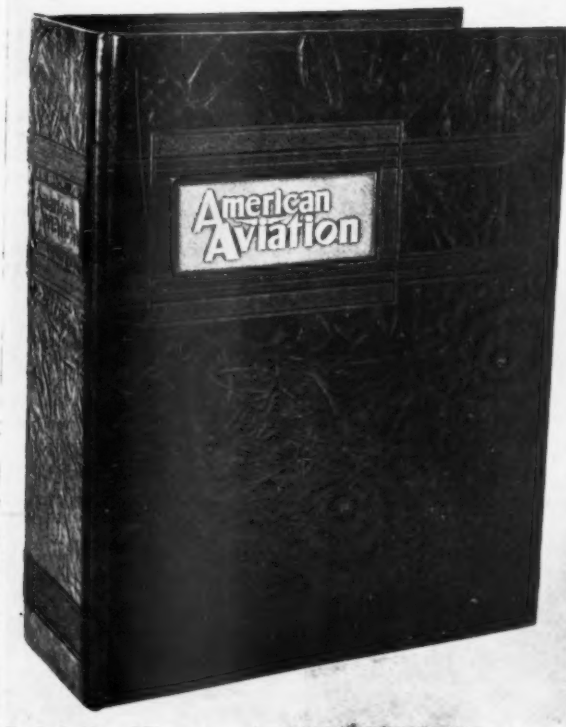
Glider Regulations Out Soon

The Bureau of Air Commerce will issue part 05 and the companion document, Air Commerce Manual 05, pertaining to gliders, in the near future. The chief of the structure branch of the aircraft airworthiness section of the Bureau, discussed the situation with contestants in the recent soaring trials at Elmira, N. Y.

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Okay Army's New Northrops



Shown as they arrived at Glendale, Cal., on an American Airlines Flagship sleeper from Washington, are Brig. Gen. Arnold N. Krogstad and Lieut. Col. Francis M. Brady, both of Langley Field, Va. They were to take delivery of Northrop pursuit planes for the Army.

Aeronca's Danish Representatives



Aeronca's new assembly plant in Copenhagen, Denmark, will be maintained by Aage Reedt (left) and Louis A. Erlind, who seems enthusiastic about the Aeronca Chief. Both men are natives of Denmark, with experience in aircraft manufacturing and merchandising. Erlind was associated with the Danish aircraft firm of Nielson and Winter for several years before coming to the United States 15 years ago. Since that time he has been active in both the automotive and aircraft industry in this country.

Grant Piper ATC's

The Bureau of Air Commerce in the week ending July 16 issued approved type certificates for Piper models J3C-50, with a Continental 50-hp. engine, and J3F-50, equipped with a Franklin 50-hp. engine. These are similar to model J3, with exception of the engines and standard weight, which has been increased to 1100-lbs.

New Pilot Mike Patented

The U. S. Patent Office has granted Stuart Ballantine, president of Ballantine Laboratories, Inc., Boonton, N. Y., a patent for a new type of radio microphone worn as a collar, which fits over the pilot's larynx and vocal cords leaving arms free for operation of the plane. The device has been successful in three years of operation, the inventor said.

Fair Parachute Tower

New York, July 21—Jordan L. Mott, vice-president of International Parachuting, Inc., has announced erection soon of a 250-ft. parachuting tower at the New York World's Fair, which will be operated as a concession. Holden and Stott have been appointed architects. Lansing C. Holden, a World War flyer, is a private plane owner. Both formerly were associated in airport work, having designed the Administration Building and hangars at Washington Airport.

Carroll Promoted by Vultee

Los Angeles, July 13.—Don I. Carroll has been appointed plant manager of the Vultee Aircraft Division of Aviation Manufacturing Corp., Richard W. Millar, vice-president and general manager, announced today. Carroll entered the aviation field in 1929, joining Spartan Aircraft Co. He has been with Vultee since 1934, having served as assistant production manager, assistant superintendent, and superintendent.

Hangar Bonds Voted

Cheyenne, Wyo., July 15—A \$23,000 bond issue for construction of a new hangar for lease to Inland Air Lines at Airport Cheyenne was approved by voters here 5 to 1. The structure, to cost \$41,000, will be financed partly by a PWA direct grant.

Announce New L. A. Firm

Los Angeles, Cal., July 12—Capt. R. H. Martin, World War flyer in the Royal Austrian Air Corps, and associates, have announced tentative construction of a \$2,000,000 plant here for Martin Aircraft Corp. With Martin in the project are Guido Orlando, former chairman of the foreign press division of the National Democratic Committee; Edward T. Sherer, Los Angeles attorney; Earl Jefferson Welch, former member of the New York Stock Exchange, and P. Collier, Long Beach oil man. "Super-speed military pursuit planes, will be produced," it was said.

AERONCA IN DENMARK

New Assembly Plant To Open in Copenhagen; Aviation Boom in Scandinavia

Cincinnati, July 12—The first of a consignment of five Franklin-powered Aeronca Chiefs are on their way to Copenhagen, Denmark, where the Aeronautical Corp. of America has located its new European assembly plant. Operators of the Danish plant are Louis A. Erlind and Aage Reedt, general manager of the ERA Corp. of Copenhagen.

"Copenhagen was chosen as the location for the new plant for several reasons, chiefly because of the great interest in light planes in northern Europe and because of the natural advantages both economical and geographical," Aeronca officials said. "The future for light planes in the Scandinavian countries is most promising due to the boost given aviation by the European Commercial Airlines."

The Aeronca Chiefs are powered with Menasco, Continental, or Franklin 50-hp. engines.

80 Fairchild Sales

Hagerstown, Md., July 15—Fairchild Aircraft Corp. today revealed that a total of 80 Fairchild 24s have been delivered, sold or contracted for since Jan. 1. Ben C. Arquitt, Lima, O., has received a dealer franchise and new Ranger powered 24 demonstrator, and Wallace Shrimpton, head of an Australian firm, will distribute Fairchild in that country and New Zealand.

Ex-Cell-O Earns \$26,186

Ex-Cell-O Corp. reports a net profit of \$26,186 for the quarter ended June 30, after depreciation, federal income taxes, and other deductions, which is equal to 7¢ a share on 393,345 shares (\$3 par) of capital stock. For the six months ended June 30, net profit was \$158,249, or 40¢ a share, comparing with \$284,048, or 73¢ a share, in the first 6 months of 1937. In the June quarter of 1937 net income was \$175,211 or 45¢ a share on 386,848 shares.

Bendix Net \$65,606

Bendix Aviation Corp., for the June quarter, had a net income of \$65,606, or 3¢ each on 2,097,663 capital shares, as compared with a net loss of \$561,605 in the first quarter and \$825,453, or 39¢ a share, in the second quarter of 1937. For the six months ending June 30, 1938, net loss was \$495,999. For the year ended June 30, 1938, net profit was \$127,173, or 6¢ a share, compared with \$2,787,892, or \$1.33 a share, for the year ended June 30, 1937.

Push New Mexican Plant

Montreal, July 19—Machinery for Canadian Car & Foundry Co.'s recently announced aircraft manufacturing plant to be established in Mexico was shipped several weeks ago, it was learned today from reliable sources. Planes will be built not only for the Mexican government, but, it is hoped by the backers, for other Latin American countries as well. Mexican workers will be used almost exclusively.

Delivers Ryans to Guatemala

San Diego, Cal., July 19—Paul Wilcox, chief pilot of Ryan Aeronautical Co., has arrived in Guatemala with a shipment of six Ryan S-T-M military training planes for the government's air force, officials here said. Wilcox is supervising assembly at Guatemala City and will test fly the planes. The S-T-M is a two-place low-wing metal-fuselage military trainer powered with a Menasco C4-S supercharged in-line engine. While Wilcox is away, all flight instruction is under direction of Robert Kerlinger.

North American's Backlog \$17,500,000

Los Angeles, July 13—North American Aviation, Inc., reports a backlog of about \$17,500,000 on June 30, as contrasted with orders for about \$9,200,000 a year ago and \$10,296,363.64 on Mar. 31, 1938. In the six months ending June 30, 1938, the firm delivered 130 planes (including spare parts), valued at approximately \$2,600,000, as compared to six planes worth \$120,000 in the corresponding period of 1937. About 1,000 men have been added to the payroll since January, running the total number of employees to 3,000. Plant operations were stepped up in the June quarter as the concern moved into production on its orders for 202 basic combat ships for the U. S. government. A total of 15 have been delivered.

Early this month official release was received from the government to start production on the order for 181 observation planes, including spare parts, now on the line, with four planes already delivered. The mockup model on the ship ordered by Great Britain—an adaptation of the advanced trainer in use by the U. S. Army—is nearing completion.

World's Largest De-Icers

Akron, O., July 13—De-icers for the 72-passenger Boeing clipper, fabricated by the B. F. Goodrich Co. here, required more than 310-sq. ft. of specially processed fabric and rubber and were made in six sections, the longest of which is 20-ft., according to the builders. They are the largest de-icers ever built. Equipment for the tail surfaces alone is about as large as is required for the wings of the present airline transport, figures show. The rubber coverings are operated by compressed air.

EDGAR LAUGHINGHOUSE is employed by Safair, Inc., Roosevelt Field, and THOMAS SKORKY has secured a position with TWA at Newark. Both are recent graduates of Roosevelt Aviation School.

GYROPILOT on the DC-4

With the successful completion of initial flight tests of the DC-4, aviation hails Douglas' great engineering achievement.

Up in the pilots' compartment of this great airplane are assembled the finest instruments obtainable. Prominent among them are the Sperry Gyropilot, recognized the world over as one of science's greatest contributions to air navigation, and duplicate installations of the Gyro-Horizon and the Directional Gyro. These vital instruments are manufactured by the Sperry Gyroscope Company, Inc., Brooklyn, N. Y.





Col. Edgar S. Gorrell



Col. J. Monroe Johnson



Jack Frye



Leighton W. Rogers



Charles F. Horner

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200 Brewster Employees Get 2c Raise; Wage Up 11c an Hour Since June, '37

Company Also Reports Buying New Plant for \$375,000; Backlog on June 15 Estimated at \$2,228,000, with High Percentage of Navy Orders

Terms of the industry's first closed shop agreement, between Brewster Aeronautical Corp., Long Island City, N. Y., and the United Automobile Workers of America, signed recently, are revealed in a stock prospectus published by the company July 14. It was also announced that Brewster has bought two tracts in Long Island City, one of which has two factory buildings with total floor space of 186,100 sq. ft., for a purchase price of \$375,000.

The first agreement with the UAWA was consummated June 24, 1937, it is reported. At that time employees were granted an increase of 6c an hour, effective upon signing of the contract, which was for the period of one year. A provision was included specifying that on Oct. 15, 1937, the matter of wages would again be considered.

On Nov. 24, 1937, this agreement was modified to provide for another increase in wages to employees of 3c an hour until June 24, 1938. On June 16, 1938, a new agreement was made providing for a union shop, an increase of 2c an hour for 200 employees to be effective beginning July 24, 1938. Also specified was an increase of 2c an hour for all "employees in the employ of the company" on Oct. 24, 1938, who were also employed on June 24, 1938, and who did not receive an increase on June 24, 1938. This agreement is for one year from June 24. The company reports that it employs 440 persons, including engineers and administrative officers.

"The increased wages of 6c an hour granted to employees under the agreement of June 24, 1937, cost the company approximately \$31,000 for the contract year June 24, 1937-8, and the increase of 3c an hour effective Nov. 24, 1937, added approximately \$18,000 for the period June 24, 1937-8," the corporation reports. To this total increased labor cost of \$49,000 for the first contract year is added the estimated increase for the second year.

It is estimated that the increase under the contract of June 16, 1938, will add approximately \$13,000 to labor costs of the company for the contract year commencing June 24, 1938, over the labor cost the preceding year," the prospectus states.

Negotiations for the new plant were completed July 8 through Braeco Realty Corp., a Brewster subsidiary, with the Metropolitan Life Insurance Co., for the purchase of a square block bounded by 34th and 35th Sts., and 37th and 38th Aves., in Long Island City, and an adjoining triangular plot. Included are two buildings, a 4-story fireproof, sprinklered plant of 160,600 sq. ft. and a one story structure of 25,500 sq. ft. Of the total price of \$375,000, \$10,000 was paid in cash upon signing of the contract, another \$27,500 cash will be paid upon delivery of the deed Aug. 30, and a first mortgage for \$337,500 will be payable Oct. 1, 1948, except that beginning Oct. 1, 1940, installments of \$3,750 each are payable semi-annually with 3½% interest the first year and 4% thereafter. About \$40,000 will be spent to repair and improve the newly acquired plant.

Under a registration statement which was effective Apr. 7, 1937, there were registered 425,000 shares of par value \$1 capital stock and warrants for the

purchase of 75,000 shares. Total shares issued to April 30, 1938, was 350,000. Of this 350,000, there was underwritten a total of 187,500. Income from the sale of the 350,000 shares is reported as \$750,000, used as follows: \$62,558.79 for purchase of additional machinery and equipment; \$75,000 for retiring bank loans; \$50,000 for liquidation of accounts payable; \$40,137.96, costs and expenses of underwriting; \$522,303.25 for additional working capital. If all warrants are exercised, total income will be increased by approximately \$412,500.

By the underwriting agreement, the company issued warrants entitling holders to buy capital stock before Apr. 1, 1942, at \$5.50 a share, to: Van Alstyne Noel & Co. (underwriters), 25,000; James Work, president of Brewster, 25,000; other officers, 14,350. Warrants for purchase of 10,650 shares have been reserved for issuance to officers and employees (except Work) as may be designated by the president.

Backlog on June 15, 1938, was approximately \$2,228,000, "the greater portion of which will not be completed this year."

The contract announced by the Navy Department June 7 (AMERICAN AVIATION June 15) for a \$1,910,395.20 purchase from Brewster is reported by the prospectus to comprise 54 planes and spare parts (contract signed June 11), specifying delivery within 15 months of signing date. Planes are to be similar to the XF2A-1, Brewster Fighter, whose prototype was contracted for June 22, 1936. Construction of the prototype began Mar. 26, 1936, and since its completion has passed extensive Navy tests. Another prototype for an experimental single seat fighter, XSBA-1, has also been flown and "preliminarily accepted by the Navy Department," the company says. Work on this plane commenced Jan. 16, 1935, the contract being dated Oct. 15, 1934.

Contracts signed with Grumman Aircraft Engineering Corp., on June 15, 1937, and Aug. 26, 1937, call for manufacture of wings, tail surfaces, and wing tip floats. Work began in July, 1937. On Dec. 15, 1937, a contract with Consolidated Aircraft Corp. was signed, for manufacture of floats and braces, and work began in January. Work had not started July 14 on the newest Navy job. From September, 1937, to June, 1938, the firm manufactured wings and tail surfaces for which royalties totalling \$2,000 were paid Grumman.

It is announced that Navy contracts and contracts for plane parts to others who have contracts with the Navy Department have comprised about 80% of the business of the present and predecessor companies, and will probably continue to do so.

During the period Feb. 10, 1937, to Dec. 31, 1937, amount paid to directors and officers (three men) was \$40,798.99. Salary of the president for the current fiscal year is at the rate of \$38,700 per annum. Compensation to Work in 1936 was \$60,270.72, of which Work Engineering Corp., predecessor, paid \$8,845.83 and Brewster Aeronautical Corp. \$51,424.89.

NEW SOLAR ADDITION Plant Wing, New Equipment and Expanded Payroll Announced

San Diego, Cal., July 12—Solar Aircraft Co. will erect a \$24,950 addition to the present plant, offering additional floor space of 13,200-sq. ft. Edmund T. Price, president, said probably 50 workers will be added to the payroll upon completion of the unit. Present personnel is 225. Additional expenditure of \$12,780 for new equipment, including welders, drop hammers, milling machines, lathes, presses, rollers and elevators, and spending of \$22,226 for foundry equipment also were announced.

A net profit of \$22,298.66 was reported for the fiscal year ending Apr. 30, 1938, or 17¢ each on the 129,640 shares of \$1 capital stock outstanding. Gross sales for the year were \$500,259.22, and backlog on Apr. 30 was reported as \$309,163.21.

W. Kent Wheeler was recently transferred to New York where a representative office has been opened. The plant is operating on three 8-hour shifts daily, Mr. Price said, and shortly will produce its 5000th manifold, more, according to Price, than have been manufactured by all other companies combined.

Officers and directors who were re-elected at the recent annual meeting were: Mr. Price, president and director; Coburn Marston, vice-president, secretary and director; Lon E. Wheeler, vice-president and director; A. A. Mathewson, Jr., vice-president and director; C. C. Richards, Jackson Hicklin and George Stone, directors, and A. W. Briggs, treasurer, assistant secretary and chief financial and accounting officer.

Plan State School for Aero Technicians

Albany, July 23—A \$500,000 state aeronautical engineering college, proposed by the state education department, will be considered by the legislature next fall, according to Dr. Lewis A. Wilson, associate commissioner of education. Preliminary estimates place annual payroll at \$100,000, and a two-year technical course would be given for about 200 high school graduates. Tuition may be set at a low figure, or eliminated altogether. Location has not been decided.

A commission may be appointed in the fall, although a survey already complete reveals the need for trained junior technical workers and junior executives. The industry in the state alone could absorb 100 graduates, and "there is a great and serious shortage of machinists, tool makers, die sinkers and instrument makers," it was revealed. Present plans encompass 50 acres of land, \$40,000 for a hangar; \$100,000 for class room buildings; \$100,000 for shop and laboratory buildings; \$250,000 for shops and laboratory equipment; \$15,000 annually for supplies and replacement and a minimum of \$71,000 for staff and salaries.

\$100,000 Contract to Ryan

San Diego, Cal., July 26—Ryan Aeronautical Co. today announced receipt of a \$100,000 contract for the manufacture of the entire exhaust manifold equipment requirements for the 200 planes to be delivered to the British government by Lockheed Aircraft Corp. This contract, which includes 500 stainless steel exhaust collector ring assemblies, is believed to be the largest ever let in this country for exhaust manifold equipment.

Aviation Corp. Shows \$388,993 Net in Half

Aviation Corp. and its subsidiaries announce a net profit of \$388,993 for the half year ending May 31, 1938, subject to audit and year end adjustments, and after depreciation and estimated normal federal income taxes. This is equal to 14¢ a share on 2,777,750 shares of capital stock. No mention is made of surtax on undistributed profits. For the half ending May 31, 1937, a net loss of \$143,156 was announced.

Set Board Meeting Dates

Aviation Corp. reports to the Securities & Exchange Commission that on May 12 the board of directors amended by-laws to provide for holding its regular meetings on the 4th Wednesday of every alternate month beginning with the 4th Wednesday of July, 1938.

Brewster 6-Mos. Profit Is \$210,397

Reflecting earnings of \$210,397.28, after taxes for the six months period ending June 30, 1938, and a profit of \$117,034.86 for the second quarter of 1938, Brewster Aeronautical Corp. announces a 10¢ a share dividend distribution of \$35,000 on Aug. 10.

This compares with a net loss of \$45,299.67 in the period from Feb. 10 to June 30, 1937, following the company's reorganization on Feb. 9, 1937.

Unfilled orders totaled \$2,165,405.60 on June 30 as compared with \$720,369.30 on Mar. 31 and \$1,630,585.04 on June 30, 1937.

AMERICAN AIRPORT EQUIPMENT CO., of 5960 Washington Blvd., Chicago, has published a new catalog of airport equipment, such as wind cones, socks, pipe masts, marker cones, obstruction lights, schedule boards, signs, and electrical equipment.

PARKS Trained Operations Men



fulfilled entrance requirements and, during their 96 weeks of intensive training, maintained the required high standard of performance which distinguishes the Parks Air College training programme.

In common with every other Parks graduate they earned an average grade of no less than 82 per cent in every term's work.

Their training included:

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Aviation Operations and Executive graduates are continuing the unique record of 100 per cent employment in the field of commercial air transport for which they prepared—convincing evidence of the practical value of their training.

Additional Operations Men, however, will be graduated each three months, the next class completing its work September 23rd.

Wire, phone or write your requirements to Oliver L. Parks, President.

**PARKS AIR
COLLEGE, Inc.**
EAST ST. LOUIS, ILLINOIS

Martin Net for 6-Mos., \$1,372,600; \$744,037 Profit in First Quarter

First Half Earnings Equal to \$1.46 a Share, Report Says; Backlog On June 30 Set at \$16,175,908.59

A net income of \$744,037.44, or 79¢ a share, is reported for the 2nd quarter of 1938 by Glenn L. Martin Co. This is after all expenses, taxes and charges. Earnings for the 1st quarter were \$628,563.18, or 72¢ a share after expenses, taxes and charges. Total net income for the first six months was \$1,372,600.62, or \$1.46½ a share, based on 936,583 1/3 shares outstanding on June 30. First quarter net for 1937 was \$339,468.94, or 41¢ a share, and 2d quarter net earnings for 1937 were \$186,838.42, or 20¢ a share.

Company backlog on June 30 was \$16,175,908.59, as compared with \$17,624,575.72 on Dec. 31, 1937. Total sales for the 2nd quarter (including royalties and license fees) were \$2,880,613.77, which together with total sales for the 1st quarter of \$4,360,711.23, results in total sales for the first six months of \$7,241,325.00.

"On Mar. 20, 1938, the company gave legal notice to all holders of its 5 year 6% convertible notes (due Nov. 1, 1939) of its intention to call these notes at par on the close of business May 23, 1938," a company statement says. "Of the \$731,000 par value of notes outstanding on Mar. 31, 1938, \$709,500 were converted into 59,125 shares of common stock and \$21,500 were redeemed in cash. This adjustment increased the common stock from 877,458 1/3 shares outstanding Mar. 31, 1938, to 936,583 1/3 shares outstanding May 24, and at the close of the 2nd quarter."

Total current assets are \$6,574,773.33, including: cash of \$565,383.68; notes receivable, \$2,400; accounts receivable, \$1,716,289.07; inventories, \$4,290,700.58. Cash surrender value, life insurance, \$153,180.26; property, plant and equipment at cost, \$5,814,290.33, less reserves for depreciation of \$1,253,351.65. Patents, trademarks and copyrights (unamortized portion), \$14,057.93. Other assets, \$3,459.04. Deferred charges are \$158,685.49. Total assets are \$11,465,094.73.

Current liabilities total \$1,544,359.69, comprising accounts payable of \$525,687.15; advances received under terms of contracts, \$69,330.39; accrued, \$949,342.15. Capital stock is set at \$936,583.33. Capital surplus is \$7,714,693.29, and surplus from operations is \$1,269,458.42.

Net sales, for 2d quarter including royalties and license fees, were \$2,880,613.77. Cost of goods sold (including selling, administrative and general expense) totaled \$1,998,164.96; depreciation of plant and equipment, \$57,498.99. Profit from operations, \$824,949.82. Income credits, \$11,204.70. Gross income, \$836,154.52. Income charges total \$92,117.08, including interest and note expense of \$7,130.83; provision for federal and state income taxes, \$56,200; and miscellaneous, \$28,786.25.

NEW KOLLSMAN SENSITIVE ALTIMETERS are equipped with side-window barometric scales and allow quicker and more precise setting, according to the maker. Kollsman Instrument Co., Inc., Elmhurst, N. Y. Barometric dial numerals are now placed alongside their corresponding graduations and the new location of the window permits continuous, unobstructed vision during adjustment. On the altitude scale all numerals are used and are of uniform size. Red reference pointers are also available to serve as landing or cruising aids, and once adjusted properly, the landing is accomplished simply by making the instrument pointers coincide with them.

J. K. Northrop Begins Diesel Production

Los Angeles, Calif., July 20—Announcement was made today that exclusive national manufacturing and sales rights for Covic diesel engines have been granted the Northill Co., and production has already been started in the Menasco Manufacturing Co. plant. A \$1,000,000 production program is underway. Vice-president and executive engineer of Northill is John K. Northrop, who formerly was Northrop Corp. president and Douglas Aircraft Co.'s vice-president.

W. S. Rosecrans, of the Los Angeles Chamber of Commerce, said "This move puts Southern California into the national diesel production picture and brings to Los Angeles another major industry of rapidly growing importance." This engine is described as of the pancake type, with cylinders horizontally opposed to permit installation in smaller space. It was developed in England.

SET WAGE HEARING

Department of Labor to Determine Minimum Rate for Aerial Photographers

The public contracts board of the Department of Labor will hold a hearing Aug. 8 in Washington on determination of the prevailing minimum wages for the aerial photographic surveying industry, it was announced July 23. Opportunity will be given members of the industry to show cause why the rate should not be set at 40¢ an hour, or \$16 for a week of 40 hours.

"At this hearing an opportunity to be heard, either in person or by duly appointed representatives, will be given persons engaged in the above industry, either as employers or as employees, to groups of such persons and to all others within the discretion of the board. Briefs or telegraphic communications may be filed, but they should be received by the administrator of the Public Contracts Board on or before the hearing date. Five copies of all briefs must be filed," the Department announced. The meeting will start at 10 a. m. in room 3229, Department of Labor building.

Stearman-Hammond Petition

San Francisco, July 16—An involuntary bankruptcy petition against Stearman-Hammond Aircraft Corp., was filed today in federal court by Pacific Air motive Corp., and Eclipse Aviation Division of Bendix Aviation Corp. The petition stated that the concern owed at least \$80,000, and asked appointment of a receiver.

Build 50% of Air Products

Los Angeles, July 17—Southern California manufacturers last year turned out more than one-half of the total value of United States airplane output, the Los Angeles County Chamber of Commerce reported today.

HANDBOOK OF FIRE PROTECTION is the title of a new book published by the National Fire Protection Association, 60 Batterymarch St., Boston, Mass. The association also distributes another book titled "National Fire Codes for Flammable Liquids and Gases," recommended by the National Safety Council for purchasing agents and the chief engineer of every airline.

Investment Guide Sees Capacity Production Till Early in 1939

New York, July 15—A new study appearing in Poor's Industry and Investment Surveys today states that present backlogs assure capacity operations for American aircraft manufacturers throughout 1938 and early 1939 at least.

"Military demand, currently the largest single source of business, promises to continue heavy for the coming 12 months," it is said. "Some \$54,000,000 will be spent by the United States Army and Navy for new airplanes, versus \$48,000,000 in the 1938 fiscal year. Even after the pressure of government rearmament programs has relaxed, replacement buying should remain substantial.

"Government contracts unfortunately provide plane manufacturers with a much narrower profit margin than is obtainable in the civil field. Accordingly, in estimating individual concerns' earnings prospects, the nature rather than the volume of unfilled orders on hand must be determined. Those manufacturers with a substantial backlog of civil orders obviously stand to make the greatest earnings progress.

"Having purchased new planes last year in expectation of a sharp gain in traffic, domestic air transport companies have built up their flying facilities to a point of record efficiency, capable of handling traffic outlined for the immediate future. Consequently, commercial aircraft deliveries so far this year have been below like 1937 volume, and a sharp spurt in demand appears illogical until signs of a marked improvement in general operating conditions appear.

"As for exports, accounting for more than one-third of total aeronautical deliveries, favorable 1938 volume is indicated. However, under the United States Neutrality Act, a sharp reversal of the present uptrend could be evidenced, given a general spread of European or Asiatic war conditions."

FIRM REDUCES CAPITAL

Thompson Products Retires 487 Shares of Preference Stock

Thompson Products, Inc., on July 8 filed a certificate of reduction of authorized capital stock with the secretary of state of Ohio, reducing maximum number of shares from 509,600 to 509,113. Reduction is in the convertible prior preference stock (no par), from 9,600 shares to 9,113 shares. There remain 500,000 shares of no par common stock, the Securities & Exchange Commission is informed.

During the period Dec. 30, 1937, to May 9, 1938, registrant purchased a total of 487 shares of the \$5 cumulative convertible preference stock for retirement, at a cost of \$44,961.50, including brokerage fees of \$412. A charge has been made on company's books to stated capital of \$48,700 and a credit made to capital surplus account of \$3,738,501, treasury stock being credited to the amount of \$44,961.50.

The corporation reveals that it has subscribed to 50 shares of Eastern Manufacturers Freight Forwarding Co., incorporated in Ohio Apr. 12, 1938, with authorized capital stock of 250 shares (no par). The new group, 100% controlled by Thompson, will file an application with the I.C.C. for a broker's license under the motor carrier act of 1935.

WILFRID O'LEARY, member of the Wyoming Aeronautics Commission, has been named state vice-chairman of the aviation section of the western annual safety conference, to be held in Los Angeles in mid-September.

TWO C-W CHANGES

William Carey Named Director; S. R. Reed to Executive Group

Election of William F. Carey to the board of directors and appointment of Stuart R. Reed to the executive committee have been announced by Guy W. Vaughan, president of Curtiss-Wright Corp. The men will fill vacancies created by the recent death of Thomas L. Chadbourne.

Mr. Reed has been a member of the board since 1929, and has been a partner in the firm of Jackson and Curtiss, Paterson, N. J., for 15 years. He is also a member of the board of the Holophane Co., Inc.; the National Aviation Corp., and Atlantic Coast Fisheries Co. Mr. Carey has been commissioner of sanitation for New York City for two years, and has headed a number of construction companies.

Lockheed Assembly Hangar

Burbank, Cal., July 13—Lockheed Aircraft Corp. will begin construction Aug. 1 on a new assembly hangar to cost \$140,000. Completion is scheduled for Sept. 15. This is the first unit of a plant expansion program to provide additional capacity for the record backlog. The firm hopes to complete between 15 and 20 planes monthly during 1939.

Canadian Mfrs. Organize

Ottawa, Ont., July 20—Organization shortly of an intermediary company for negotiations and conferences with Canadian aircraft manufacturers and spokesmen of the British Air Ministry who are expected soon has been announced by the Commercial Air Transport and Manufacturers Association.

Dividends

(Compiled by Dow-Jones)
Aviation Corp.—Distribution of 18½¢ on \$3 par value capital stock, payable July 22, as of record July 1.
Brewster Aeronautical—10¢ payable Aug. 10, as of record Aug. 1.
Pan American Airways—25¢, payable Aug. 1, as of record July 20.
Sperry Corp.—60¢ payable July 29, as of record July 22.

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Also used equipment—Write for additional information

New Bennett Bakelite Craft



Bennett Completes 7-Passenger Monoplane of Bakelite Plywood

A new twin-engine mid-wing cabin monoplane of all bakelite plywood construction, covered with balloon cloth, and accommodating seven passengers and one pilot, is announced by Bennett Aircraft, Inc. The present model is equipped with Jacobs L-5 motors.

Maximum speed is rated at 206-mph. at sea level, with cruising speed using one engine announced as 145-mph. Useful load is 2,392-lbs. and maximum payload is 1,584-lbs., according to the manufacturer. Landing speed is 54-mph.

Access is to the cabin is gained by two doors, one leading to the forward, or flight, compartment, and the other to the rear compartment. Both doors latch at the bottom and when open lie back on the top of the cabin. The pilot compartment has good visibility. Grouped on the left of the control board are dual instruments for both motors. Flight instruments are centered on the control board, shock-proof mounted.

In the rear of the cabin, seating arrangements are a matter of choice—two wide seats facing, two seats and a lounge, or six seats may be used. Cabin windows and pilot's windshield are equipped with safety glass. Luggage compartments are at the rear of the cabin and in the nose. The fuselage construction is conventional, with a skeleton of built-up frames and routed stringers, and a smooth bakelite plywood skin secured by glue to this skeleton. Split type flaps, extending inward to the fuselage, duplicate the aileron construction, and are operated hydraulically. Wing structure departs from the conventional—a single spruce combination box and eye spar is used to carry the loads. The spar is positioned between the pilot seats and the front rear seat.

The retractable landing gear is the simple single fork type. In the wheel-up position the gear swings backward into the nacelle and is flush with the lower lines of the nacelle. Oilhydraulic shock absorbers with 8-inch travel, Goodyear wheels and hydraulic brakes are used.

Efficiency, sure take-off, rapid climb, and fast cruising speed are claimed for the plane, with large control surfaces providing control at slow speeds. Easy

handling, comfort, durability, and safety, with 200-mph. speed are additional assets. Speed with one motor is 145-mph.

Speaking of the bakelite construction, the manufacturer writes, "Its durability in weather is unequalled. Sections of our bakelite plywood have been placed for days in boiling water, in tests conducted by the Bakelite Corp., and their strength and durability have not been impaired. Other sections were buried in moisture soil to prove that fungi will not attack and cause them to deteriorate. If it becomes necessary to make repairs, any workman of average intelligence can repair the damage with a minimum amount of expense and labor."

General description and data, as announced by the company, follow:

Gross weight 6,908 lbs.
Useful load 2,392 lbs.
*Maximum payload 1,584 lbs.

*Based on BAC regulations. Includes all load, except one pilot, 13 gals. of oil, and 90 gals. of gas.

Span 48 ft. 2 in.
Length 30 ft. 6 in.
Height 9 ft. 5 in.
Wing area 302 sq. ft.
Wing loading 22.8
Power loading 11.5
Gasoline 200 gals.
Oil 13 gals.
High speed 206 mph. (sea level)
Cruising speed 186 mph., 8,000 ft.
Climb at sea level 1,480 ft. a min.
Service ceiling 22,500 ft.
Landing speed 54 mph.
Single engine ceiling 9,000 ft.
Single engine cruising speed 145 mph.
Take-off run 650 ft. at sea level
Fuel consumption at cruising 32.4 gals. an hr.

Optional installation with Jacobs L-6, 330-hp., or Wright R-760-E, 350-hp., may be provided, which will increase performance from 5% to 8%. Wrights or Wasp Juniors will increase performance 15% to 18%, it is announced.

China Leads June

Aeronautical Buyers

China and Japan were the leading importers of American aircraft and accessories during June, according to the Department of State, buying \$2,200,774 and \$1,379,128 worth of products, respectively. Japan and Brazil were the leaders during May, with China in third place. Fifteen other countries also made purchases in excess of \$10,000 during June. The complete list is as follows:

China	\$2,200,774.00
Japan	1,379,128.00
Russia	525,091.00
Netherlands Indies	296,407.00
Canada	260,299.62
Turkey	187,995.00
Netherlands	125,490.00
Venezuela	117,986.00
Mexico	78,200.00
Finland	49,044.00
French West Africa	32,500.00
Honduras	18,661.00
Colombia	17,500.00
Argentina	15,275.00
Rumania	13,820.00
Great Britain	13,080.00
India	11,376.50

Countries exporting in smaller amounts included Australia, Brazil, Cuba, Czechoslovakia, Germany, Norway, Portugal and the Union of South Africa.

400 Curtiss-Wright

Engines Ordered

New York, July 15—Curtiss-Wright Corp. today announced receipt of a \$4,000,000 order for 400 airplane engines from Lockheed Aircraft Corp., believed to be the largest single purchase of engines ever made by an American aircraft manufacturer. The engines and spares are intended for 200 Lockheed reconnaissance planes, revised model 14's, ordered by the British Air Ministry.

Giro Aide to Dayton

Dayton, July 14—Indication that the Pitcairn Autogiro Co., Willow Grove, Pa., is seeking a revival of air corps interest in its products was seen today in the visit of A. E. Larsen, of Pitcairn, to consult with Wright Field technicians.

E. Burke Wilford and Associates Form Company to Push Use of Beryllium

E. Burke Wilford, president of the Pennsylvania Aircraft Syndicate, announced July 27 the formation of Cooper-Wilford Beryllium, Ltd., incorporated in the state of Delaware. The company is organized for the purpose of bringing beryllium into the aircraft and engine manufacturing field and is capitalized at \$100,000.

Original members of the organizing syndicate are Mr. Wilford; James Work and Temple Joyce, of Brewster Aeronautical Corp.; J. Brooks B. Parker, aviation insurance expert of Philadelphia; Victor Zelov, president of Molded Products, Inc.; Dr. Zorvkin, chief of television research, Radio Corporation of America, and Sir Gordon Ley, of England.

6 Months' Exports Soar; See \$80,000,000

Aeronautical exports from the United States for the first six months of 1938 smashed all records, reaching a total value of \$37,121,659, only \$2,283,814 below the record \$39,405,473 figure established during the entire year 1937. The six month's total is 128% greater than for a similar period last year. During June, exports totaled \$7,952,932, an all-time high for any one month.

Exports for the first six months are divided as follows: 427 aircraft valued at \$21,005,848, 620 aircraft engines valued at \$3,345,400, parachutes valued at \$150,057, and aeronautical parts, instruments and accessories valued at \$12,620,354.

It is certain that the year's exports will be above the \$80,000,000 mark and, with the receipt of the large British and French orders, the effect of which is not seen in past monthly reports, may be over \$100,000,000.

Radio Receptor Sues Bendix, General Motors

Radio Receptor Co., Inc., New York, has filed suit in federal court for damages of \$365,000 naming as defendants Bendix Aviation Corp., Bendix Radio Corp. and General Motors Corp. Plaintiff alleges damages resulted from a conspiracy to form a monopoly and to ruin its business in the United States and Canada in 1936 and 1937.

De Havilland Plans

Toronto, July 13—De Havilland Aircraft of Canada, Ltd., is expected to announce refinancing plans soon, although it appears improbable that a public offering will be made. Income derived from sale of new paper will be used for plant improvements. The firm holds Canadian rights for products of the parent, De Havilland Aircraft Co., Ltd., which company is expected to participate in the refinancing. All class A and class B common stock is outstanding—and about 270,500 shares of the authorized 500,000 shares of \$100 par 7% preference stock.

The company is primarily a patent holding and research organization. A production company will be formed around Jan. 1, 1939. No stock will be sold in either company.

"The father of beryllium is Hugh S. Cooper," Mr. Wilford said. "He was the first one to produce in commercial quantity this important metal. The present cost of isolating beryllium is \$25 a pound, but to compete with aluminum in the aircraft industry the cost must be reduced eventually to \$5 a pound.

"The trend of the aircraft industry will be toward the use of beryllium-aluminum alloy. Payloads will be increased by fifty per cent with its use. It has a higher tensile strength and a longer life.

"Beryllium has a use wherever you want light weight strength and resistance to fatigue and corrosion.

"Its primary uses in the aircraft manufacturing industry will be for pistons, connecting rods, tubing, plumbing, non-corrosive springs, light armor plate, anti-aircraft gun barrels, dies, cutting tools and all parts where dural is now used." The secretary of the company is Ralph G. Albreth, 501 Fifth Ave., New York City.



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Exchange Adds Ex-Cell-O

The New York Stock Exchange has registered common stock, par value \$3, of Ex-Cell-O Corp. The stock formerly appeared on New York Curb listings.

Gets Trading Privileges

Recent application by the Los Angeles Stock Exchange for unlisted trading privileges in Curtiss Wright Corp. Class A stock has been approved by the Securities & Exchange Commission.

AIRCRAFT ACCESSORIES CORP. Glenside, Cal., has been appointed Pacific Coast factory representative for Shakespeare Products Co., Kalamazoo, Mich., manufacturers of Shakespeare controls for throttles and chokes.

CONTRACTS

The Department of Labor announced the following contracts, amounting to \$1,676,558.94, signed during the week ended July 14 by various government agencies:

Suncook Mills. Suncook, N. H., airplane fabric, Army Air Corps., \$116,777.25.

Rohm & Haas Co. Philadelphia, Pa., plastic sheet, Army Air Corps., \$53,154.80.

Standard Oil Co. of Louisiana. New Orleans, La., engine fuel, Army Air Corps., \$12,591.00.

Phillips Petroleum Co. Bartlesville, Okla., engine fuel, Army Air Corps., \$15,400.00.

Standard Oil Co. of Kentucky. Louisville, Ky., engine fuel, Army Air Corps., \$21,505.00.

Shell Petroleum Corp. St. Louis, Mo., engine fuel, Army Air Corps., \$16,150.00.

Shell Oil Co. San Francisco, Calif., engine fuel, Army Air Corps., \$10,800.00.

Socony-Vacuum Oil Co., Inc. New York City, engine fuel, Army Air Corps., \$20,143.20.

Midland Airport, Inc. Midland, Tex., engine fuel, Army Air Corps., \$13,650.00.

Oklahoma City Air Terminal. Oklahoma City, Okla., engine fuel, Army Air Corps., \$16,800.00.

Standard Oil Co. of Illinois. engine fuel and lubricating oil, Army Air Corps., \$20,810.00.

Standard Oil Co. of Louisiana. New Orleans, La., engine fuel, Army Air Corps., \$11,560.00.

Grumman Aircraft Engineering Corp. Bethpage, L. I., N. Y., airplanes, Navy, \$597,680.00.

Pump Engineering Service Corp. Cleveland, Ohio, pump assemblies, \$74,823.38.

Eclipse Aviation Corp. East Orange, N. J., starters, Navy, \$32,680.00.

United Aircraft Corp. Hamilton Standard Propellers Div., E. Hartford, Conn., propeller assemblies, Army Air Corps., \$372,741.70.

Covered Wagon Co. Mount Clemens, Mich., trailers, Army Air Corps., \$68,425.00.

Corbitt Co. Henderson, N. C., truck-trailers, Army Air Corps., \$99,090.11.

Standard Steel Works. N. Kansas City, Mo., trailers, Army Air Corps., \$99,977.50.

The Department of Labor announced the following contracts, amounting to \$708,352.27, signed during the week ended July 21 by various government agencies:

Standard Oil Co. of California. San Francisco, Calif., engine fuel, Army Air Corps., \$39,873.50.

Wright Aeronautical Corp. Paterson, N. J., engines, Navy, \$591,725.67.

Mid-West Dynamometer & Engineering Co. Chicago, Ill., dynamometer, Army Air Corps., \$12,125.00.

Curtiss-Wright Corp. Curtiss Propeller Div., Buffalo, N. Y., aircraft propellers, Coast Guard, \$18,900.00.

Abrams Aerial Survey Corp. Lansing, Mich., aerial surveys, Agriculture, \$45,728.10.

Stock Holdings

Following are stock transactions and holdings of officers, directors and principal stockholders, as reported to the Securities & Exchange Commission June 11-30. All transactions were made in May except those specifically noted. Holdings are as of the end of that month.

Lockheed Aircraft Corp. (capital)—Lawrence C. Ames, director, decreased 100 to 8,000; through C. H. Ames Estate holds 100. Cyril Chappellet, officer and director, decreased 100 to 11,107. Hall L. Hibbard, officer and director, increased 1,666 to 4,433.

Nicholas Beazley Airplane (common)—Charles A. Bell, officer and director (Jan. 1938), exchanged 845 shares for stock of Air Associates, Inc., holding none. Charles M. Buckner, officer and director (Jan. 1938), exchanged 3,784 shares for stock of Air Associates, Inc., holding none; as trustee (property interest not shown) exchanged 4,080 shares for stock of Air Associates, Inc., holding none. Cary Houston, officer and director (Jan. 1938), exchanged 6,800 shares for stock of Air Associates, Inc., holding none. Albert M. Keller, director (Mar. 1938), exchanged 566 shares for stock of Air Associates, Inc., holding none.

Pan American Airways Corp.—Graham B. Grosvenor, director, sold 200 \$5 par common, holding 1,400. Richard K. Mellon, director (Sept. 1937), received in exchange 12,000 \$5 par common, holding that amount directly; decreased by exchange 6,000 \$10 par common, holding none directly; through Ricasar Co. received in exchange 4,000 \$5 par common and decreased by exchange 2,000 \$10 par common. George Mixter, director (Sept. 1937), received by exchange 500 \$5 par common, holding that amount, and decreased by exchange 250 \$10 par common, holding none.

Western Air Express.—Charles Boettcher II, director, increased common 50 to 150, and exchanged 100 rights for common, holding none. Charlie N. James, officer and director, increased common 200 to 600, and exchanged 400 rights for common, holding none.

A summary follows showing equity holdings filed by persons becoming officers, directors or principal stockholders of firms having securities registered with the Commission:

Bell Aircraft Corp. John Bellanca, dr. none Mar. '38.
Pan American Airways Corp. (com.) Robert G. Thach, off. 6,426 June '38.

\$1,339,704 Navy Contract

The Navy Department on July 22 announced that a contract had been awarded for airplanes and spare parts to Curtiss-Wright Corp., Curtiss Aeroplane Division, Buffalo, N. Y., aggregating \$1,339,704.25.

Underwriting Extension

By agreement between Piper Aircraft Corp. and J. E. Swan & Co., dated July 2, 1938, the time within which preferred stock, common stock, and subscription warrants of Piper may be purchased by the underwriter was extended from four to eight months after the public offering, the SEC is informed. The original agreement was made Feb. 9, 1938, by which Swan & Co. was to offer 21,500 shares of convertible preferred stock, and subscription warrants with respect to 43,000 shares of common stock.

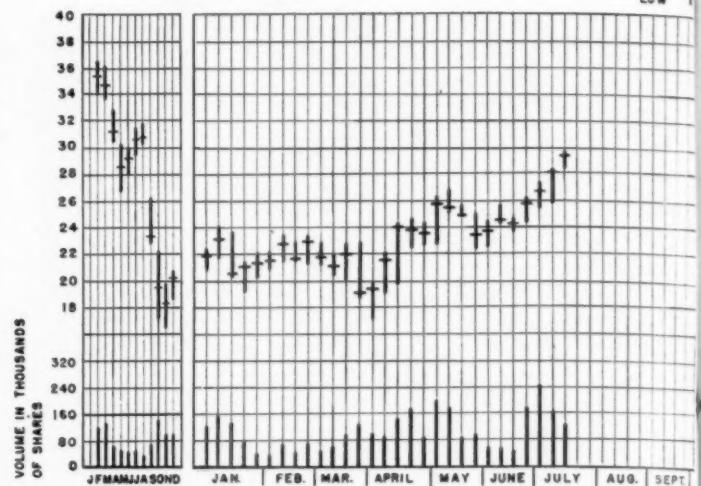
WEEKLY AVIATION AVERAGES
(1937-1938)

Chart Data Obtained from Wyckoff Associates, Inc.
Comments by Philip P. Friedlander

Grandly leading the flock, the aviation stocks held an enviable position on the market. Then suddenly the climb forward became a rather tedious task. Investors found other attractive situations. And now with the future of aviation companies most promising, their stock appear to be laboriously trying to perform as satisfactorily marketwise as the rest of the list. True, the aviation stocks have peered into new high ground around 29. But the moment they reached new highs, they found the going too rough, and had to quickly re-

treat. Again they went back to their old high, around 29.53. The volume, though, is not as satisfactory as the technicians desire.

Despite all this, we cannot help but feel that the aviation securities will sooner or later come into their own. Real profits lie ahead for investors who carefully select their aviation equities. In scrutinizing the manufacturing companies, pick out the leading ones, particularly those stocks which have not, as yet, recovered to their earlier year's highs.

LEADING AVIATION STOCKS

NEW YORK STOCK EXCHANGE

	Week Ending July 16				Week Ending July 23			
	High	Low	Net Change	Sales	High	Low	Net Change	Sales
Aviation Corp.	4 ³ / ₄	4 ¹ / ₂	- 1 ¹ / ₂	14,300	4 ³ / ₄	4 ¹ / ₂	- 1 ¹ / ₂	12,600
Bendix Aviation	18 ¹ / ₂	15 ¹ / ₂	+2 ¹ / ₂	51,500	18 ¹ / ₂	17 ¹ / ₂	+ 1	37,200
Boeing Airplane	31 ¹ / ₂	28 ³ / ₄	-1 ¹ / ₂	64,700	31	28 ¹ / ₂	+17 ¹ / ₂	48,500
Consolidated Aircraft	17 ³ / ₄	16 ³ / ₄	- 1	11,900	17 ³ / ₄	16	+ 3 ¹ / ₂	13,000
Curtiss-Wright	5 ³ / ₄	5 ¹ / ₂	+ 3 ¹ / ₂	130,600	6	5 ³ / ₄	+ 1 ¹ / ₂	71,500
Curtiss-Wright A	23 ³ / ₄	21 ¹ / ₂	+1 ¹ / ₂	56,700	23 ¹ / ₂	22 ¹ / ₂	- 1 ¹ / ₂	28,700
Douglas Aircraft	53 ³ / ₄	50 ³ / ₄	+ 7 ¹ / ₂	46,900	54 ¹ / ₂	51 ¹ / ₂	+1 ¹ / ₂	35,000
Ex-Cell-O	15 ³ / ₄	14 ³ / ₄	- 3 ¹ / ₂	8,400	15 ³ / ₄	14 ³ / ₄	+ 1 ¹ / ₂	9,900
Glenn L. Martin	26 ³ / ₄	24 ¹ / ₂	+ 1 ¹ / ₂	52,400	26 ³ / ₄	25 ¹ / ₂	+1 ¹ / ₂	53,300
Natl. Aviation Corp.	10 ¹ / ₂	9 ¹ / ₂	- 1 ¹ / ₂	10,700	10 ¹ / ₂	9 ¹ / ₂	- 3 ¹ / ₂	3,600
N. American Aviation	11	10 ¹ / ₂	- 1 ¹ / ₂	34,700	10 ¹ / ₂	10 ¹ / ₂	....	36,100
Sperry Corp.	25 ³ / ₄	22 ³ / ₄	+1 ¹ / ₂	63,100	25 ³ / ₄	24 ¹ / ₂	+ 3 ¹ / ₂	27,500
Thompson Products ..	16	14 ¹ / ₂	+ 1	5,500	17	15 ¹ / ₂	+11 ¹ / ₂	3,700
TWA	8 ¹ / ₂	7 ¹ / ₂	- 3 ¹ / ₂	7,700	8 ¹ / ₂	7 ³ / ₄	+ 3 ¹ / ₂	6,300
United Air Lines	10 ³ / ₄	9 ³ / ₄	- 3 ¹ / ₂	35,900	11 ³ / ₄	9 ³ / ₄	+ 1	27,500
United Aircraft	29 ¹ / ₂	28 ¹ / ₂	- 1 ¹ / ₂	39,800	29 ¹ / ₂	28 ¹ / ₂	+ 3 ¹ / ₂	38,600
Wright Aeronautical ..	100	94	+3 ¹ / ₂	1,320	102	97 ³ / ₄	+11 ¹ / ₂	510

NEW YORK CURB EXCHANGE

	Week Ending July 16				Week Ending July 23			
	High	Low	Net Change	Sales	High	Low	Net Change	Sales
Aero Supply A ....	....	....	....	....	16 ¹ / ₂	16 ¹ / ₂	+ 7 ¹ / ₂	100
Aero Supply B	4	3 ³ / ₄	....	1,500	3 ³ / ₄	3 ¹ / ₂	- 1 ¹ / ₂	1,300
Air Associates	8 ¹ / ₂	8 ¹ / ₂	+ 3 ¹ / ₂	700	8 ¹ / ₂	8 ¹ / ₂	+ 1 ¹ / ₂	400
American Airlines	15 ³ / ₄	14 ¹ / ₂	+ 1 ¹ / ₂	1,600	15 ³ / ₄	14 ¹ / ₂	- 1	2,100
Aviation & Transp. ..	21 ¹ / ₂	21 ¹ / ₂	+ 1 ¹ / ₂	7,600	2 ³ / ₄	2 ¹ / ₂	+ 1 ¹ / ₂	14,900
Beech Aircraft	1 ¹ / ₂	1 ¹ / ₂	+ 3 ¹ / ₂	800	1 ¹ / ₂	1 ¹ / ₂	....	200
Bell Aircraft	14 ¹ / ₂	13 ¹ / ₂	+ 3 ¹ / ₂	3,100	13 ³ / ₄	12 ³ / ₄	-1 ¹ / ₂	1,200
Bellanca Aircraft	4 ¹ / ₂	3 ³ / ₄	+ 1 ¹ / ₂	2,000	4 ¹ / ₂	4 ¹ / ₂	....	1,000
Breeze Corps.	4 ¹ / ₂	4 ¹ / ₂	- 1 ¹ / ₂	3,100	5 ¹ / ₂	4 ³ / ₄	+ 3 ¹ / ₂	2,500
Brewster Aero	7	6 ¹ / ₂	+ 3 ¹ / ₂	13,400	7	6 ¹ / ₂	- 1 ¹ / ₂	4,800
Fairchild Aviation ..	4 ³ / ₄	3 ³ / ₄	+ 3 ¹ / ₂	3,400	5 ¹ / ₂	4 ¹ / ₂	+11 ¹ / ₂	11,300
Grumman Aircraft Eng.	10 ¹ / ₂	9 ³ / ₄	- 1 ¹ / ₂	2,100	10 ¹ / ₂	9 ³ / ₄	+ 1 ¹ / ₂	1,700
Irving Air Chute	11 ³ / ₄	10 ³ / ₄	- 1 ¹ / ₂	600	11 ³ / ₄	11	+ 3 ¹ / ₂	1,200
Lockheed Aircraft	14 ¹ / ₂	13	+1 ¹ / ₂	34,600	14 ¹ / ₂	13 ³ / ₄	- 3 ¹ / ₂	16,800
Pan American Airways	17 ¹ / ₂	17	+ 1 ¹ / ₂	2,000	17 ¹ / ₂	16 ¹ / ₂	- 1 ¹ / ₂	3,900
Penn Central Airlines	7 ³ / ₄	5 ³ / ₄	+1 ¹ / ₂	3,400	8 ¹ / ₂	6 ³ / ₄	+11 ¹ / ₂	3,700
Seversky Aircraft	2 ³ / ₄	2 ³ / ₄	- 1 ¹ / ₂	2,000	2 ³ / ₄	2 ¹ / ₂	- 1 ¹ / ₂	3,900
United Aircraft war ..	13 ¹ / ₂	11 ¹ / ₂	- 1 ¹ / ₂	10,700	13 ¹ / ₂	11 ¹ / ₂	+ 3 ¹ / ₂	5,100
Waco Aircraft	3 ¹ / ₂	2 ³ / ₄	+ 3 ¹ / ₂	1,800	....	....	....	....
Western Air Express ..	3 ¹ / ₂	3 ¹ / ₂	- 3 ¹ / ₂	300	3 ¹ / ₂	3 ¹ / ₂	- 1 ¹ / ₂	300

HAVE YOU A PRODUCTION PROBLEM?

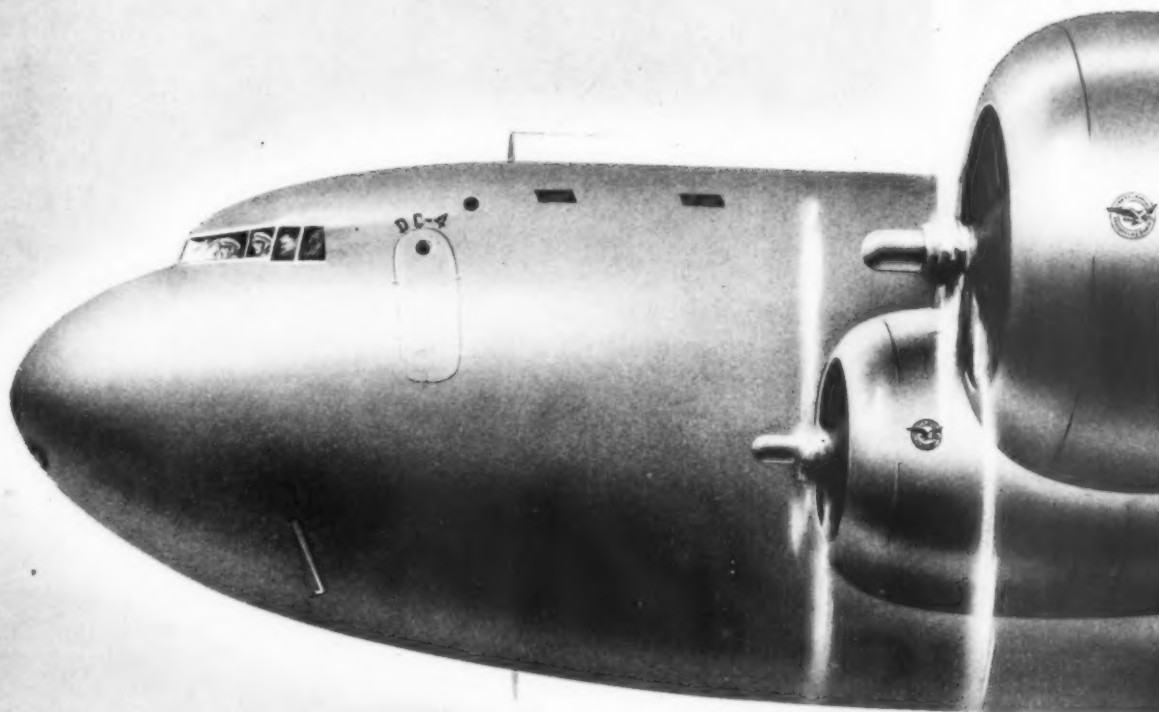
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(ESTABLISHED 1922)
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July 25, 1938

Civil Aeronautics Authority
Washington, D. C.

Gentlemen:

The main responsibility for the development and safety of Civil Aviation from now on is in your hands and we believe that all the factors that contribute to sound development, financial stability and fewer accidents will improve, following your establishment. We think that the Aviation Industry should be congratulated upon the selection of such a widely experienced and non-partisan board as you are.

We are naturally interested in the sound development and in the safety of Civil Aviation in the United States. We can enlarge the volume of our business through reasonable insurance rates achieved through growth and safety. Before the U. S. Government assumed any control of Civil Aviation, our organization was endeavoring to promote safety practices among aircraft manufacturers and operators. When the Aeronautics Branch of the department of Commerce was formed in 1926, we worked with them, and we are still working with them to the same end. We offer you our full cooperation and look forward with confidence to a future which has become more encouraging to the well-wishers of aviation because your administration has become a permanent factor in its development.

Yours very truly,

Manager.

GLL ET